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CANADA

MEDICAL & SURGICAL

JOURNAL.

A Monthly Record of Medical and Surgical Science.

EDITED BY

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CANADA

MEDICAL & SURGICAL JOURNAL

AUGUST, 1887.

Original Communications.

ON SOME FORMS OF HYSTERIA.

By George Ross, M.D.,
Professor of Clinical Medicine, McGill University.

(Read before the Medico-Chirurgical Society of Montreal.)

We are all fully alive to the freaks and vagaries of that strange disease, *Hysteria*, and, in anomalous cases, should be on the alert for the detection of this underlying element. The usual manifestations of hysteria are so striking, so well understood, and so easily recognized, that when they exist, they give an impress to the symptomatology that cannot escape the medical observer. But when these are wanting, the symptoms may very easily be, and often are, mistaken for those arising either from *organic* disease of the nervous system (central or peripheral) or from disease of very various organs and structures. It is, too, a matter of common observation that persons suffering from the graver forms of hysteria may never have presented any of the common manifestations just alluded to, and this valuable aid to diagnosis is frequently wanting. This point is worth establishing, because it is within my experience that the absence of a history of globus, or of convulsions or fainting attacks, or retention of urine, etc., is often brought forward as an argument against the hysterical hypothesis in a doubtful case. To reach a satisfactory diagnosis in these cases, it is of special value to consider the whole of the symptoms together, taking in the entire picture made by these, and studying them from the standpoint of their possible explanation as a whole—for the anomalous

character of the entire group of symptoms often forms the strongest argument in favor of hysteria: and mistakes are often made by want of due consideration of this procedure, where any two or three of the symptoms, taken apart from others, might readily indicate an entirely erroneous conclusion.

As hysteria is pre-eminently a disease of the female sex, it is mainly amongst girls and women that we are so apt to suspect its existence. That it occurs amongst boys and men will be admitted by any medical man to whom you put the question; but you will generally find that the cases they have seen are limited to perhaps one or two in which the common phenomena —emotional fits, or globus, or palpitation—have occurred. So rare is it to observe hysteria gravior in the male. But it does show itself sometimes, and may then be the source of grave alarm on the part of both friends and medical attendants. I have met with several examples of the kind within the past year, and to illustrate this point, select two cases from the hospital record:

CASE I.—E. P., aged 31, telegraph operator, admitted 27th September, 1886, complaining of spitting blood, severe vomiting, and diarrhœa. Family history good. Patient has always enjoyed good health until 4th July, 1884, when, whilst on a sea voyage, was suddenly thrown from his berth, striking his head against a marble wash-stand. Remained unconscious for half-an-hour, and no bad effects followed until twenty days after the accident, when he had a fit, described as follows: Unconscious; frothing at the mouth; tongue bitten; limbs quiet. Fit lasted half-an-hour, after which he felt tired and sleepy. These fits came on every second day about 11 A.M., and were preceded by a feeling of "wishing to be alone." The fits continued for three months, and at the end of this time patient entered a hospital in Dublin, where the surgeons decided to trephine, but patient objected to this, and he was given small doses of calomel for two hundred consecutive hours. The result of this treatment was severe ptyalism and complete cessation of the fits. Has had no recurrence since. Nine months later had occasional attacks of cholerine for two months whilst in Marseilles. In December

1885, began to complain of an easy, painless, non-paroxysmal cough, generally worse in the morning, attended with a small amount of greyish-colored and tenacious sputa. In the intervals of coughing, patient spat up bright red, frothy blood, varying in quantity from a teaspoonful to three tablespoonfuls, and, he says, as much as 20 ounces upon one occasion. Had night sweats; no diarrhœa; lost flesh somewhat. Remained in a hospital in Paris for two months, where, under the use of the hot hammer and blisters to the chest, he improved very much, and returned to England. Three months later, through having "caught cold," patient had a return of the above symptoms in about the same degree of severity. He now entered the Brompton Hospital, where, under treatment (cod-liver oil, porter, and nourishing diet), he improved so much that at the end of five weeks he left the hospital able to resume his usual occupation. Shortly after there was a return of all his previous symptoms in a slighter degree, and he entered the Victoria Park Hospital. Here, under a similar course of treatment, he improved much in health and strength, and continued to do so until 26th September, 1886, when after just arriving in Montreal was seized with, he says, a severe attack of diarrhœa, stools being watery, yellow, and streaked with blood, the passage of each stool being attended with a good deal of pain and tenesmus; complained also of abdominal cramps and vomiting, the ejecta consisting of food taken. Had a slight attack of spitting of blood. No cough nor thoracic pain. These symptoms were preceded by chills and feverishness. Upon admission, these were the symptoms complained of by patient, but upon examination, the stools passed were quite normal in appearance, and he had no attack of vomiting.

Examination.—Of average height; weight 118 lbs.; sparely, though well-built; anæmic: dark complexioned; skin warm and moist; muscles not wasted; no evidence of injury to head; no evidences of syphilis; nails not incurvated; tongue pale and moist, coated in centre with slight white fur, edges indented. Pulse 84, regular, and of good volume. Respirations 18, regular. Temperature 99°. Physical examination of the heart and lungs is negative. Examination of the larynx by Dr. Major

reveals nothing abnormal. Dr. Johnston's report upon the sputum (?) is as follows: "A dark-brown fluid, odor aromatic, contains traces of food, a considerable number of fat globules, and numerous epithelial scales, also a few mold filaments; not examined for bacilli, as none of the usual elements of sputum were found; no blood-cells to be seen in specimen." Urine 52 ozs., very pale color; no deposit; 1022; no sugar, no albumen.

During patient's stay in the hospital his chest was frequently examined, with negative results; the spurious expectoration was subjected to rigid examinations, with the same result as that at first arrived at. He was closely watched for these attacks of spitting of blood, but never could he be caught in the act. The symptoms complained of disappeared upon admission; his appetite was good, the bowels regular, slept well, gained in weight, and nothing unusual developed until 30th October, when, at 2 P.M., he was seized with violent and excessive pain in the umbilical region, and upon examination, even the slightest touch caused excruciating pain and made him cry out. The position assumed was as follows: Recumbent posture; left arm held closely to the body and forearm flexed to a right angle; fingers of left hand strongly abducted from the median line and semi-flexed; the left thumb was firmly adducted and flexed to a right angle. The fingers and thumb were easily straightened, but soon flew back to their original state. The act of moving the fingers apparently pained him very much. The right upper extremity was not at all affected. The lower extremities were markedly rigid and extended. Feet extended and all the toes pointed forwards except the left great one, which was bent backwards and almost touched the dorsum of the foot. Unexpected tickling or pinching the lower extremities would cause the existing rigidity to pass off and the legs would suddenly be drawn up. When attention is drawn to it, no amount of tickling or pricking with a pin would cause any starting of the extremities or give evidence of pain. Patient wrongly locates the site of any touch or irritation. Sight and hearing unaffected. Pulse 60, regular; respirations 18; temperature 98°. This condition continued for about one hour, and at the end of this time had

resumed his natural state. In the evening of the same day had a similar attack; but in addition to the foregoing symptoms, there was, as he said, "complete inability to see any objects or even to distinguish light from darkness"; the sense of smell and taste were also absent, as he did not give the slightest evidence of perceiving a strong solution of ammonia held closely to the nostrils, nor of tincture of assafœtida placed on the tongue. Patellar reflex was present, and to a marked degree on the left side. Pulse 70, regular; respirations 18; temperature 100°. Patient said he had a fit during the night of a character similar to those he had when in a hospital in Dublin. Next day all that remained of his symptoms was analgæsia above the right eye, over an area of 2×3 inches. His gait had also changed, for when walking he placed the right foot in advance of the left and rested on the right whilst the left was lifted in a rigid state close to the other foot. At times when walking in this manner he would tend to fall to the left side. Two days later all symptoms had entirely disappeared and the gait was again quite natural. Patient left the hospital next day.

Now this is a curious medical history. It consists, briefly, in "fits," said to have been cured by calomel; repeated hæmoptyses and a cough; diarrhœa for several months; return of alleged hæmoptysis; the colored fluid shown not to have come from the lungs; sudden onset of spastic contractures in limbs; analgesia; sudden disappearance of the same; sudden and temporary interference with the special senses. It involves manifest incongruities which are not to be explained except upon the ground of hysteria. Our observations on this patient whilst in hospital showed that he possessed in a marked degree many of the mental characteristics with which we are especially familiar in women who suffer from this malady, viz., a keen interest in their own medical case—a craving for a corresponding interest on the part of those around them—a readiness to furnish details concerning symptoms—close observation of all treatment and its apparent effects—a proneness to exaggerate or even falsify in order to increase the sympathy they so long for. Further enquiries, too, developed the fact that this man's moral sense

had become very obtuse. He had made fraudulent representations to certain persons with reference to financial and other matters, and had succeeded in committing some petty acts of "swindling." A knowledge of this might, perhaps, have been taken as invalidating the case entirely and caused one to say that we were dealing with no disease at all, but with deliberate simulation only. I did not take this view of the case, and I think that a consideration of the details given will convince any one that a real disease of the nervous system was present. The most important observation bearing out this idea was that pertaining to the curious and rapidly-developed spastic phenomena with associated sensory disturbances, a condition which it would take a *very* clever imposter to evolve out of his inner consciousness. I would note the assistance derived here from microscopical examination of the bloody fluid alleged to have been spat up. Dr. Johnston knew nothing of the case—simply getting the specimen in a numbered vial along with several others from the hospital. He, you will have noticed, repudiated it as a specimen of sputum at all, which fully confirmed suspicions already entertained.

The next case, also in a male, presents very different features:

CASE II.—J. W., aged 20, admitted October 10, 1884, with high fever, delirium and cough. He was found to have been ill for thirteen days with symptoms indicative of pneumonia, and physical examination showed the usual signs of consolidation of the apex of the left lung. During the next two days he remained quite ill. Temperature 101° to 103°; pulse 120. Delirious at nights, no sleep, and required constant watching. On the 13th defervescence took place; the morning temperature being 98°, and the pulse 68. The note of this day, however, says: "Will not put out his tongue; refuses to open his mouth for a drink of milk; will not answer any questions." And the remark significantly follows: "Except for this mental condition, is evidently much better." I may merely say that, as regards his affected lung, the process of resolution proceeded rapidly. No further elevation of temperature occurred, and he began to sleep a little at nights. It was on the days subsequent to the

13th that we observed the special symptoms indicative of the nervous disorder. On the 14th, the note describes him as "a little more rational, and willing to speak and to explain his feelings and other symptoms." On the 15th, "had a good sleep last night, is quiet and fairly rational." On the 16th, "has fallen into a lethargic condition, which is rapidly deepening, so that he is roused with considerable difficulty. By loud speaking can be made to protrude his tongue (which is dry). Lies quite still on his back, with occasional twitchings of the hands and a moderate talkative delirium. No change in the pupils. Urine passed in bed." On the 17th, "a good night; bright, asked for his dinner; spoke quite briskly at the mid-day visit. Soon after relapsed into a soporose, semi-comatose state similar to yesterday. Can only be aroused momentarily with difficulty." On the 18th, "a repetition of the same thing; a good night; a bright forenoon, and at 1 P.M. a relapse into an apparently insensible condition." At this time no shouting, shaking or violent pinching succeeded in arousing him, and no answer of any kind could be obtained from him. Late in the afternoon he was again quite wide-awake. 19th, less stupor and delirium. 20th, "Eats and sleeps well; quite lively and intelligent; no attacks of stupor." From this time his convalescence was uninterrupted.

We learned from the nurse, during the days of his *stupid* attacks, that these might come on and go off perhaps twice or three times during the course of the day. That the condition varied remarkably we had sufficient evidence from what we ourselves observed. The most usual condition was fair intelligence in the forenoon, rapidly or even suddenly changing to a state of apparently profound lethargy and stupor at about 1 P.M. Another point was that on these days he knew his friends when they came to visit him, but talking to them made him extremely excited, and he cried profusely—so much so that the nurse was twice obliged to send them away.

To recapitulate the facts of this case: A delicate, slim young man, aged 20, nervous looking, contracts pneumonia and arrives here at the heighth of that disease, delirious; typical defervescence occurs, and the case (*quoad* the pneumonia) follows a

normal course towards resolution. But, instead of our patient presenting the calm aspect and cheerful face of the ordinary pneumonic convalescent, we find him continuing to talk incoherently, even in the daytime, lying in a limp fashion on his back with his eyes shut. Next day found in a deep stupor, lying quite still and breathing quickly like one asleep. Then, again, he is found wide-awake and quite chatty. The sight of friends excites him and makes him weep. This condition passes off in a few days, and he is well.

The facts detailed are, I think, sufficient to warrant the diagnosis made—the hysterical condition assuming here the form of lethargy, and having been induced by the debility resulting from the acute disease.

I was recently consulted concerning the son of a gentleman in a neighboring town. The lad, aged 16, having been suffering from toothache and swelled face, became suddenly apparently insensible, remaining so several days and causing much anxiety. He then began to rouse up at intervals and appear rational, going off again in a short time into the same lethargic state. At other times he would talk and sing to himself, paying no attention to what was going on around him, and they feared his mind was giving way. I received full particulars from his medical attendant, and, replying, gave a favorable prognosis, because I looked upon the case as an odd form of hysteria in an adolescent. He was subsequently brought to the city to see me, and from my examination I was still further convinced that this was the true explanation of it. He quite recovered and continues well.

The paralyses of hysteria are always interesting. The diagnosis is often sufficiently obvious, but sometimes it is beset with many difficulties. It is notoriously *the* disorder, of all others, which offers to the charlatan and the faith-cure people the most attractive and the most lucrative field. Some time ago a lady whom I had previously treated for functional aphonia began to complain of certain indefinite pelvic symptoms, and finally lost power to a considerable extent in both lower extremities. I advised a stay in the city (she lived some distance away) for

the purpose of trying the effect of isolation from sympathizing friends and massage. This was not done, however, and her friends took her instead to New York. Here (perhaps unfortunately) they consulted a very eminent gynæcologist. He pronnnced the verdict that it would be necessary to remove the ovaries. This terrified her, her friends refused their consent, and she remained bedridden and hopeless of any relief. Just then a bright light of the "faith-cure" or "healing by prayer" community happened along. He found, on enquiry, that she had any quantity of "faith," and he was therefore able to promise everything. Surely enough, she walked in a couple of days, and after a few weeks returned home satisfied that with her a real miracle had been wrought. Her feelings of gratitude took the form of a "statement" contained in a small pamphlet headed "modern miracles," which was no doubt widely circulated and of which I received a copy. Being a very clever lady, her "statement" tells most eloquently of her rapid descent into the confines of the valley of the shadow of death, and of her rescue therefrom by the hand of an angel in the garb of the "faith-cure" man. It might be mentioned, *en passant*, that this ministering angel was not above the sordid meanness of accepting the very handsome fee of $1,000 presented to him by his grateful worshipper. This lady is now quite well and likely to remain so, having subsequently married the man of her choice, whose temporary defection was probably the cause of the entire trouble.

It is quite justifiable to take a leaf out of the book of the "faith-curers." Positive and dogmatic statements go a long way with patients of this kind, and the employment of some visible means perhaps assists in bringing about the desired restoration. This plan was adopted in the following cases with the happiest results :—

Case III—*Hysterical Hemiplegia.*—T. S., aged 16, servant, admitted to hospital 8th November, 1886, complaining of weakness of left arm and leg, and pain in the left side of head and neck. Three days previous to admission patient began to complain of a dull, aching, continuous pain in the forehead, not worse at any particular time. Had sensation of chilliness and slight

attack of epistaxis. Took to bed at once, and next day suffered from weakness in left arm and leg, which gradually became worse until admission. Enjoyed good health until two years ago, when on waking up one morning found her left arm and leg completely paralyzed. These members were very tender and painful, and of such severity as to cause her to cry out whenever touched. Sometimes the right arm and leg would become clonically contracted for a few minutes, whilst the left arm and leg would be at rest. Was quite conscious all the time. Facial expression and power of speech were not affected. Patient remained in bed until last Christmas, and at this time made some improvement, so much so that she was able to go about by the aid of crutches, and one month later was quite well. The treatment consisted in the application of liniments to the affected parts. Began to menstruate at 13½ years of age; has always been irregular, intervals between the periods varying from fifteen days to six mweeks. Appetite has been good; bowels irregular. Slept well. Patient says she has been subject to fits of laughing and crying.

Upon admission.—Complains of a dull, aching, continuous pain, localized in the forehead; of numbness and weakness of the left arm and leg; and of inability to lie upon the left side. Patient is of small stature; her features are of an Indian type (her father is chief of an Indian tribe and her mother a French-Canadian); is dark-complexioned; wears a heavy, angry expression upon face; face is symmetrical; assumes the dorsal decubitus, but, forgetting herself, turns over to the left lateral. Pupils active and equal. Tongue moist and clean, and protruded in the median line. Power of flexion, extension and abduction of upper arm, extension of forearm and hand grasp of the left side apparently very weak. Whilst conversing with her she forgets the weak condition of the muscles of the upper extremity, and raises her hand to brush her hair back. Flexion and extension in left leg slightly weaker than that of right. Muscles of affected parts are well developed and firm. Tactile sense intact throughout, though analgesia is present to a slight degree in left arm and leg only. Reflexes normal. When walking,

patient limps on the left leg, keeping the foot strongly everted, and puts it down to the ground as if afraid of hurting herself.

A faradic current was daily applied to the affected limbs, and she was encouraged to rub them several times every day with a liniment. She was told that this would cure her in a few days. At each visit careful enquiries were made as to the regularity with which she had carried out her treatment. The weakness of the limbs steadily improved, the gait shortly became natural, and she was discharged quite well in a fortnight.

CASE IV—*Hysterical Paraplegia.*—M. H., aged 22, servant, brought into the hospital upon a chair complaining of inability to walk.

History of the case.—Until day previous to admission patient enjoyed good health, when, upon awaking in the morning, she found herself quite unable to move her legs. Later on in the day, with assistance, got out of bed, but her knees suddenly gave away, thus precipitating her to the floor. Returned to bed and remained there until brought to the hospital. Was quite conscious. No perverted sensation. Complained of severe and continuous frontal headache, described by the patient herself as "boring" in character; it is not worse at any particular time. Upon the morning of admission to the hospital she said her voice had suddenly become weaker, and at times she completely lost it. Also complained of palpitation, with tenderness under the left mamma. Has no vesical or rectal disturbance. Menses are irregular in their appearance, small in amount, and each period is generally preceded by pain.

Examination.—Patient is a healthy-looking and well-nourished female; takes a great deal of care to describe fully and dwell at length upon her complaints. The breathing during this time is quite tranquil, but when attention is drawn to the painful spots the respirations immediately become quickened and somewhat sighing in character. Voice is weak; inclined to whispering. Lower extremities are extended and the feet are in a natural position. Skin is warm and moist. Muscles not wasted. Says she cannot move the legs at all. The plantar reflexes, if suddenly tested, causes slight withdrawal of the feet. Tactile sense is

normal. Marked analgesia in the lower extremities from the feet to as high as the knees. Pressure over and below the left nipple causes patient to wince, but with the attention misdirected these points are no longer tender. It was now insisted upon that the patient should get up and try to walk, and this she did, but her gait was staggering; the heels were placed firmly upon the ground, the toes extended, and the plantar arches much elevated; her eyes were kept fixed upon the ground; at times she would appear as if about to fall, but this was generally done when she was well within reach of good support. Examination of the larynx by Dr. Major was negative in its result. Heart and lungs negative. Urine 54 ozs.; very pale, acid; specific gravity 1015; no sugar, no albumen. Four days later the analgesia had entirely disappeared, the painful spots no longer present, and the voice quite natural, but her gait had changed. Now patient's walk may be described as follows: Walks on the ball of the great toe of right foot, the heel is raised from the ground, the left foot is placed in advance of the right, and whilst resting upon it, the right knee-joint suddenly gives away; but patient soon regains the upright position and continues to walk as before. She was given some bread pills, had electricity applied, and used a stimulating liniment. In about two weeks the gait was quite natural, and all pains and aches had disappeared. The patient was now discharged from the hospital.

The same precaution was taken here to impress this patient from the outset with the idea that her case was quite curable; that she would soon regain the power of her limbs; and to insist upon her following certain prescribed directions very carefully.

CASE V—*Hysterical Vomiting.*—H. S., aged 27, servant, admitted complaining of vomiting and of pains in the abdomen, legs and head.

Previous history.—Enjoyed good health until six months ago, when one morning, whilst lying down, patient was suddenly seized with a sharp pain in the left lower axillary region, extending throughout the body, aggravated by deep inspiration, and coughing. Vomiting set in, and for the first time. The attacks were aggravated by ingestion of food, but would also occur inde-

pendently of any food taken. There was no dysphagia. The food was rejected about an hour after it was taken. The ejecta consisted of what was eaten. Even fluids could not be retained. Never had hæmatemesis. No pain after eating. Had no desire for food. Suffered from insomnia. From these attacks of vomiting, which have continued ever since in a greater or lesser degree, patient has lost much in weight and strength. About this time patient began to suffer from what she calls fits, described as follows: The aura consisted of a sense of fulness in both ears, and accompanied with a loss of hearing. This would last about half a minute, then patient would become unconscious and fall down anywhere, on one occasion cutting left eye, and, again, on another occasion, whilst in one of these fits, received a black eye. These fits are not attended with any tonic or clonic contractions of any of the muscles of the body. No frothing at the mouth. Has never bitten the tongue whilst in one of these fits. The duration of a fit is from a few minutes to one or even two hours. Has had as many as two fits in one week. Says that cold water, if thrown upon her face, always brought her to her senses.

Patient is a married woman and the mother of four children, all enjoying good health except the eldest, a boy aged 8 years, who is subject to fits such as his mother suffers from.

Family history.—Mother and four sisters died of consumption. One brother, at 13 years of age, had fits similar to those patient suffers from for fifteen years, and died from their effects.

Present history.—At present patient complains of vomiting, of pains in abdomen, legs and head, and of fits. The attacks of vomiting consist in almost everything being ejected from the stomach within half an hour to an hour after the ingestion of food. The ejecta, upon examination, are found to amount to half a pint at any one time of clear, transparent mucus fluid, acid in reaction; the microscope reveals detritus of food; no blood corpuscles; no sarcinæ. Suffers no pain after the ingestion of food; no dysphagia. Complains of anorexia, constipation and insomnia. The pains in abdomen, legs and head are very indefinitely located in these regions, their site being very change-

able and their character altered from time to time—at one moment being dull aching, and the next minute sharp and shooting. Patient says she is kept awake by these pains, and they are much increased by movement and examination. The only relief to the vomiting and pains was the frequent use of morphia.

Examination.—Patient is of average height, anæmic-looking, not well nourished; muscles soft and wasted; skin warm and moist; assumes the dorsal decubitus; evidences of recent injury to left eye, no scar seen. Patient is very restless; keeps turning her head from side to side; rubs abdomen with the right hand; respirations all this time becoming quickened, shallower and sobbing in character. This having apparently reached a climax at the end of one minute, the patient begins to cry, stops rubbing the abdomen, and turns to the right side, all this time apparently suffering very severe pain. Shortly after this the patient sat up in bed, eructated a large quantity of gas, and vomited about half a pint of thin, clear, watery-looking fluid. She now lay down in bed apparently exhausted, the respirations being rapid and sobbing in character. Pulse 80, full and regular. Respirations 36. Temperature 97°. Tongue moist and covered with slight fur in centre. Abdomen full, not distended; tenderness, amounting to hyperæsthesia, generally distributed, but more marked in right and left iliac and epigastric regions. This hyperæsthesia disappears entirely when patient's attention is elsewhere directed. No tumor made out. Liver and spleen normal. Nothing unusual in the position of the extremities. Muscular power is good. Gait natural. Tactile sense everywhere present. Analgæsia is limited to the left leg from the ankle to knee-joint. Reflexes slightly exaggerated. Heart and lungs normal. Urine 58 ozs., pale in color, acid; specific gravity 1012; no albumen, no sugar.

For the next forty-eight hours the attacks of vomiting were incessant during the daytime, but always ceased at night. Patient ejected all food taken during the day, but at night the food left at the bedside partially disappeared.

The evening after admission patient had one of her usual fits, and it is described as follows: Is quite conscious and answers

all questions quite correctly. The respirations are rapid (38 per minute), shallow and sobbing. The arms are extended and the fingers firmly closed, both arms shaking as if patient had a chill. The lower extremities are natural in position. No disturbed sensibility. This condition lasted for about two minutes, and then patient assumed a quiet state. Pulse during fit was 72, full and regular. From this day until exit (6th December) patient had no return of the attacks of vomiting nor of the fits, and she improved very much, the appetite returning, sleeping well, and the bowels regular. The treatment consisted in giving her a placebo—viz., peppermint water.

FATAL INJURY TO CHEST, COMPLICATED BY A RARE FORM OF DISLOCATION.

By Ed. Evans, M.D., Seaforth, Ont.

July 12th, was called to see Wm. O'K. A beam of timber 40 feet long and 12 inches square had fallen on him, pinning him to the earth. On this being removed, he was able to walk a short distance. Patient was found sitting in a chair, leaning on left elbow, with head bent forward to the right. He was very pale, and his hands were cold. Pulse 76, and strong. Respirations 26, gasping and painful. Voice weak and speaking difficult. On removing shirt, a large emphysematous swelling occupied area about lower angle of right scapula; over this area was evidence of a severe bruise. On manipulation, distinct crepitus could be got in the seventh and eighth ribs of right side, and anterior portions of them were easily depressed, causing patient severe pain. Site of fracture was under the emphysematous area. On percussion (which could be but imperfectly performed), there was no dulness over lung. Auscultation gave larger bubbling râles over the site of fracture, limited in area. There had been no hæmoptysis on my arrival, but it began soon after and persisted for about five hours, never very profuse.

The application of a chest bandage, rather firmly applied, afforded some relief, and so it was left on. I gave him a hypodermic of morphia gr. ¼ and atropia gr. $\frac{1}{100}$, and ordered appli-

cations of ice to side. An hour afterwards, auscultation revealed bubbling râles over a much larger area of right lung. Hæmoptysis was more profuse, and the cough, short and hacking, had become very distressing, and the pulse faster and rather unsteady. I therefore ordered the ice to be sedulously applied, absolute rest to patient and avoidance of speaking, and gave a dose of ergot (to be repeated) and also a sedative for the cough. He was now pretty free from pain, and remained so during the night. There was dislocation of the right sterno-clavicular articulation *upwards*. (In Ashurst's "System of Surgery" there are said to be only twelve or fourteen such cases on record.) The head of the bone could be fairly well defined in the suprasternal notch, and the sternal tendon of the sterno-mastoid was tightly notched over it, forming quite a distinct prominence. It was easily reduced by drawing the shoulder outward and backward, while the head of the bone was pressed into position. No apparatus was applied, and it remained well in position till death. The shoulder was driven inward and forward by the beam.

Next morning patient said he had passed the night fairly well. The cough was still troublesome, constant, hacking and feeble. Was spitting very little clotted blood. Respirations 30; temperature 99°; pulse 80, and steady. Patient said he felt pretty well, but he was restless, anxious and talkative. Chest was tympanitic on percussion. Auscultation, few râles were heard; breathing was blowing, except over upper third. A peculiar whistling sound was also heard, especially on expiration. Patient continued nicely till 12 A.M., when he became pale, livid and cold, and breathing became faster and more oppressed. When seen at 8 P.M., patient was pale and weak; could not speak above a whisper, and then only a few words. Respirations 56; pulse 120, weak and thready; temperature 99°. The whole of right lung was full of large bubbling râles, as was also the upper part of left lung. Patient died at two o'clock that night, thirty-six hours after injury, attendants saying "he smothered."

QUARTERLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

PREPARED BY WM. GARDNER, M.D.,
Professor of Gynæcology, McGill University; Gynæcologist to the Montreal General Hospital.

The Operation for Total Extirpation of the Uterus through the Vagina is growing in popularity and in success as regards primary mortality, and as a natural consequence its application is being extended to conditions hitherto incurable or treated with only partial success in other ways. The most recent contribution to the already very extensive literature of the operation is a paper by Leopold of Dresden in the last number of the *Archiv für Gynäkologie*, No. 30, Hft. 3. This able gynæcologist has operated forty-eight times, with only three deaths, a mortality of only 6.2 per cent., by a long way the best showing on record. Of these 48, 42 were for cancer, 4 for total prolapse, and 2 for extreme neurosis, in both of which castration had failed or only partially succeeded in relieving the symptoms. Of especial interest are those latter cases, because of the recent application of the operation to them. The prolapse cases were instances in which the ordinary plastic operations had failed or were unsuited from great atrophic thinning of the vaginal walls. Two were cured and the other two had slight descent of the vaginal walls after a few months. In the two neurotic cases the appendages had in both been removed. In the first case there was complete relief from the symptoms for five months, when they returned, and to the right of the uterus, in the region of the ligatured pedicle, an exceedingly tender, moveable nodule of the size of a bean was discovered. The patient was so miserable as to be prepared to submit to any operation offering a chance of cure. The uterus and nodule described were removed without difficulty. Recovery from the operation easy and rapid. All the symptoms removed except a tendency to paroxysms of vomiting. In the second case, the symptoms were severe pelvic and sacral pain, the latter during defæcation, and hystero-epileptic seizures at the menstrual periods and also in the intervals. The patient was addicted to morphia, and suffered from partial and complete

lapses of consciousness. The uterus and ovaries were adherent. The uterus retroflexed, probably as a result of gonorrhœal oöphoritis and salpingitis. An attempt to remove the ovaries was unsuccessful, or only partially so. After two months, no improvement of the symptoms. The uterus and ovaries were now extirpated by the vaginal method. Recovery from the operation easy and rapid. After a course of treatment to overcome the morphia-habit the patient lost all her symptoms, and at the end of a year was in perfect health.

There is no one method of operating followed by all surgeons. The most important problems are shortening the operation and prevention of bleeding. The patients are mostly cancer cases, cachectic and debilitated, badly conditioned for bearing long anæsthesia and hemorrhage primary or secondary. Compression forceps meet the indications in some measure. They are much used in France, but very little in Germany, in the performance of the operation. Müller of Berne has used them in five cases. The vaginal vault is incised all round as usual, the bladder separated, and the Douglas pouch opened, but the uterus is not retroverted. The index finger is passed through the opening in the posterior cul-de-sac and hooked over the upper part of the broad ligaments, its point appearing in the peritoneal opening in front of the uterus. Along the finger first one blade and then the other is passed, and the instrument articulated and fixed. This is repeated for the other broad ligament. When fixed, the ligaments are divided and the uterus removed. The forceps are left *in situ* forty-eight hours and then cautiously removed. After the operation the vagina is washed out with a solution of salicylic and boracic acid and then tamponed with iodoform gauze.—(*Cent. f. Gyn.*)

Dry Treatment in Gynæcology.—This is the subject of a paper by Dr. Engelmann of St. Louis in the June and July (1887) numbers of the *American Journal of Obstetrics.* Dr. Engelmann has previously advocated the method he now describes in detail. By this treatment the author means " the treatment of female pelvic disorders, uterine, circumuterine and vaginal, by the use of powders and cotton-wool or jute in the

dry state, impregnated with the medicinal agent, or serving as a carrier for powders." Dr. Engelmann claims that it corresponds to the treatment, of late years found so effective in surgery. As advantages, the author claims that it is safe, immediate comfort is afforded, the effect produced is mild and continuous, rest is given to the pelvic viscera, it is clean and antiseptic, all the pelvic viscera are influenced, a variety of purposes can be accomplished by one and the same application, and it neither excludes nor interferes with other methods of treatment. It is especially as a substitute to the aggressive and dangerous practice of powerful intra-uterine medication and the indiscriminate use of pessaries that the author advocates this dry treatment. There can be no doubt that by a large section of the general profession the true import of evidences of endometritis of body or cervix is quite misunderstood. By many this endometritis is regarded as the essential feature of any case where present, whereas in the great majority it is the result of other conditions which, being the cause, ought to be attacked in order that such result may be removed. The powders used by Engelmann are bismuth, iodoform, boracic acid, borax, alum, tannin, oxide of zinc, soda and charcoal. For mechanical purposes, or as carriers, wool and plain cotton, less useful are jute medicated, medicated gauze and absorbent wool with corrosive-sublimate. Cotton may be impregnated with borax, iodoform, salicylic acid, carbolic acid, iodine, iron, tannic acid and alum. The remedies are applied through a speculum, bivalve or Sims', with a powder-blower to apply the powder to the vagina and cervix, and a long strong catch dressing forceps to carry the cotton, wool or other material into position. The powder used soothes, dessicates, astringes, or acts as an antiseptic, according to the selection made, while the tampon acts, if medicated, as a carrier of the remedial agent; mechanically as a support to hold in place the uterus, ovary or other part; as a compressor; as a stimulant and alterative to the tissues; as a splint to steady the parts, give rest, and keep them apart, preventing friction, and by absorbing the discharges, keeping the membrane dry and clean. For most purposes, Engelmann prefers sheep's wool to cotton on

account of its elasticity, which prevents it being flattened into a hard wad, as is the case with the latter, but as wool is often irritating, he makes the body of the tampon of wool and coats this with a thin layer of cotton. For most purposes he uses oval-shaped tampons of two sizes, the larger three inches long by one and a half in diameter, and the smaller two inches long by three-quarters of an inch. He prefers a number of small tampons to one large, as it is easier to adapt them to the purpose or object in view. For most purposes the patient is treated every second day, the tampons remaining 30 to 36 hours, when they are removed and the hot douche used once or twice prior to the next treatment. When the absorbefacient effect of iodine is desired, iodized cotton tampons may be used. Five per cent. iodized cotton is that usually employed, and unless blistering is desired, it is best to coat the iodized tampon with a layer of plain cotton. So with iron-cotton, when that is necessary.

Pain and Insomnia from Gynæcological Causes.—In a short paper in the *American Journal of Obstetrics* for July, 1887, Dr. H. R. Bigelow discusses this subject. In speaking of pain, he divides it into real and reflex. By the former he means actual pain, as neuralgia, rheumatism, and the pelvic pain of peri- and parametritis. In such conditions he strongly advocates urethran in 15 to 20 gr. doses, from which he claims to have repeatedly seen long and pleasant sleep induced in patients who resisted chloral, bromides and conium, or who could not bear opium. In such cases Dr. Bigelow finds urethran a real analgesic, as distinguished from hypnotics. It leaves no unpleasant sequelæ. For reflex or hysterical pain the constitutional indications must be met; persistent use of drugs is dangerous. For such cases he uses massage, cold alcoholic bathing, vigorous rubbing, electricity, and attention to hygiene. Bromide of potassium alone is worse than useless. For insomnia, while insisting upon the necessity of general treatment, such as massage, electricity, bathing and diet for a cure, he advocates paraldehyde very strongly. It is excessively volatile, and should be given in doses of 30 to 60 minims immediately after uncorking the bottle. It should be administered in brandy or whiskey.

When freshly made and administered as just directed it produces several hours of peaceful, refreshing sleep, without subsequent nausea or headache. The author orders electricity in the morning and massage at night. The form of electricity used is the faradic current, with the feet in a basin of warm salt water, in which one pole of the battery is immersed and the other applied to the back of the neck.

Antiseptic Sponge-Tents.—Dr. Porak, accoucheur to the Hôpital St. Louis, Paris, appears with rather a long article on this subject in the *Nouvelles Archives d' Obstetrique et Gynecologie* for June 1887. Recognizing the importance and value of dilatation of the uterus for diagnosis and treatment, and realizing, also, the well-known dangers from sepsis, Porak has made a number of experiments, the result of which he gives in this paper. He tried keeping the sponge-tents still invested with their encircling cord in certain antiseptic watery solutions of carbolic acid, corrosive sublimate, boracic acid and salicylic acid. He had a fatal case of retention of placenta, in which he used a tent soaked in five per cent. of carbolic acid. The death, he observes, might have been due to retention of the placenta, but his confidence in tents prepared in this way was further shaken by observing that they floated near the surface of the liquid, and that in all but the sublimate solutions the surface of the tents above water became mouldy. The action of alcohol, ether, benzine, etc., on tents soaked in them is in no way to cause them to swell, and only after long soaking in such liquids is their subsequent distensibility in water to any extent diminished. Tincture of iodine, however, profoundly affects sponge soaked in it, completely destroying the dilating power of compressed sponge. After many experiments, Porak found it the best plan to keep sponge-tents in an ethereal solution of iodoform. They may be kept in this solution for months without in any material way having their expanding power lessened, if the bottles be kept in the dark. The action of light is to decompose the iodoform and generate iodine, and if this proceed to any extent the dilating power of the compressed sponge is much impaired. The author observes, however, that prolonged contact

of the medicated sponge with the uterine mucosa will, in endometritis, be an advantage rather than otherwise, and if necessary, sponge so prepared may be left several days in the uterine cavity.

Electrolysis in the Treatment of Uterine Fibroids.—It will be remembered that Apostoli's method, by which he is able to use currents of an intensity of 200 milliampères and over, is the use of a large wet-clay electrode to the abdomen. For this dirty and disagreeable substance, Dr. Franklin H. Martin substitutes a concave metal plate, over which is stretched tightly a piece of animal membrane. The cavity thus produced is filled with salt solution through an opening in the metal plate. With this material 150 milliamperes of intensity could be attained by Dr. Martin. The author insists on the specific action of each pole on the tissues. At the positive pole coagulation and shrivelling take place, while at the negative fluidifying and breaking down result. The positive pole is to be employed for its specific action on the endometrium in hemorrhage from that membrane. Martin's methods, except for the material of the abdominal electrode, are thus the same as Apostoli's, and need not be here described.—(*Jour. Amer. Med. Assoc.*, Jan. 15, 1887.)

Additional and confirmatory evidence of the value of electricity in the treatment of fibroid tumors of the uterus continues to pour in from various quarters. In the *British Med. Journal* for the last six weeks have appeared letters from Dr. Playfair, Sir Spencer Wells and Dr. Althaus of London, Dr. Elder of Nottingham, and Mr. Skene Keith of Edinburgh, all expressing in varying degrees appreciation of the value of a treatment long known to be efficacious, but never so systematized as at the present time. To Dr. Apostoli of Paris is due the great credit of demonstrating the efficacy and safety of currents applied by methods which he has so ably worked out. To get any idea of the enthusiasm of this distinguished physician, one must have seen him as I did last summer at work in his clinique in Paris. One of, if not the very earliest descriptions of Apostoli's methods published in any medical journal on this continent is that conveyed in the translation of a paper of his in the number of this

JOURNAL for February of this year. Dr. W. Woodham Webb, one of Apostoli's assistants, has ably described the technique and scope of the treatment, and given cases illustrating what can be done by it. His papers appear in the *British Medical Journal* for June 18 and July 9 and 16 of the present year, and they may be read with much advantage by any one interested in the subject. The number for July 16th also contains an able and temperate editorial article on the same subject. Dr. Apostoli is to be present at the approaching meeting of the British Medical Association in Dublin and also at the International Congress in Washington.

Hospital Reports.

MEDICAL AND SURGICAL CASES OCCURRING IN THE PRACTICE OF THE MONTREAL GENERAL HOSPITAL.

A Fatal Case of Sunstroke. (Under the care of DR. R. L. MACDONNELL.)

(Reported by DR. KENNETH CAMERON, House Physician.)

T. K., aged 23, a wharf-laborer, on June 30th, while engaged in transferring lumber from a barge to the steamship Montreal, about 11.30 A.M., after being exposed for some time to the direct rays of the sun, was seen to fall forward, and on being picked up in an unconscious condition, was taken on board the steamship, where he had several attacks of vomiting. Cold was applied to the head and body, and croton oil administered by the ship-surgeon.

On being brought to the hospital in the ambulance, the following conditions were noticed during life: The patient, a tall, powerfully-built man, was in a state of profound coma; pupils closely contracted and unaffected by light; corneal and other reflexes absent; conjunctivæ reddened; breathing rapid, noisy, stertorous and labored; pulse rapid (140), weak and irregular; skin intensely hot and dry; face pale. Temperature: At 12 noon, 107 3-5°; at 1.30 P.M., 107 2-5°; at 2.30 (five minutes before death), 107 3-5°; at 2.40 (five minutes after death), 108½°. Vomiting occurred twice, the ejected matter being thin and watery, and of a greenish color. About an hour and a half before death there was relaxation of the sphincter of the

bowels, with copious thin, watery evacuations. Relaxation of the sphincter of the bladder was not noticed, as all the urine had been drawn off for examination. Urine: color normal, specific gravity 1026; no albumen and no sugar; contains ten grains of urea to the ounce. About every ten or fifteen minutes a condition of epileptiform convulsions occurred, chiefly clonic in nature, with occasionally a slight tendency to opisthotonos; these spasms lasted from a half to two minutes, and were followed by a period of rest of the muscles. Towards the end the intervals became longer and the spasms less marked. Death occurred at 2.35 from asphyxia, the last expiration being accompanied by a gush of greenish fluid from the mouth and nose. One minute after death all the muscles took on a condition of fibrillar twitching, which lasted about a minute.

Treatment employed was an ice-cap to the head, sponging with ice-water every hour; administration of antipyrine in two doses of gr. xxx each without any effect; hypodermic injections of ether and mustard blisters to the chest; and inhalations of chloroform during the spasms.

Past history.—According to his brother's statements, the patient arrived in this country from Ireland three weeks previously, and had found steady employment. He had always enjoyed perfect health, never having been known to have suffered from any illness. He had never been a heavy drinker, but had been accustomed to take liquor. It was not known if he had taken any before he was taken sick.

Family history good; no history of any nervous or pulmonary disease. Post-mortem could not be obtained.

MONTREAL'S RECORD.

OBSERVATIONS TAKEN AT M'GILL COLLEGE OBSERVATORY—JUNE 30.

Time.	*Barometer.	Thermometer.	†Humidity.	Weather.	Wind.	
					Direct'n.	Vel.
3.00	30.108	70.4	..	Clear	SW.....	28
7.00	30.137	71.2	62	"	SW	20
11.00	30.094	81.4	63	"	SW.....	18
15.00	30.055	84.7	60	Cloudy	SW.....	14
19.00	30.029	79.0	58	Clear	SW.....	16
3.00	30.044	74.5	54	Fair	SW.....	20

Height above Sea Level, 187 feet.
* Barometer reduced to sea level and to temperature of 32° Fahr.
† Humidity relative saturation being 100.
Maximum temperature of the 30th was 86.3.
Minimum temperature of the 30th was 68.5.
Total mileage of wind on the 29th was 558; greatest in one hour 34.

MONTREAL GENERAL HOSPITAL AND MONTREAL DISPENSARY.

GYNÆCOLOGICAL CASES UNDER CARE OF DR. ALLOWAY.

CASE I—*Endometritis Polyposa.*—Aged 45; married fifteen years, nine children, yougest two years of age. States that for some three or four years past she suffered from periodical attacks of severe uterine hemorrhage lasting for two or three months continuously at times; the hemorrhage would then cease for probably two months or more, when it would again return. She became of late very anæmic, weak, and suffered much from pain in back and side, so much so that she would be compelled to remain in bed for days at a time.

Examination.—Uterine hemorrhage present; uterus retroflexed, fundus low down and excessively tender to touch; uterus easily replaced, however, with repositor, depth 8 cm. Cervix lacerated bilaterally, hypertrophied and cystic. No myomatous involvement.

This was a case of cervical laceration, subinvolution, descent of uterus in pelvis, retroflexion and endometritis polyposa, occurring in this order of sequence.

Treatment consisted in replacing uterus forwards and thoroughly curetting the endometrium with the sharp instrument, removing large quantities of sessile vegetations of various sizes and then washing the cavity out with 1–2000 solution of the mercuric bichloride. This case recovered her blood and strength so much during the following four or five weeks that she would not, for the present, have anything further done.

CASE II—*Endometritis Polyposa, with exhaustive hemorrhage.*—Aged 46; married eighteen years, eleven children, youngest child three years of age. Complains of severe bearing down pains in back and sides. Profuse leucorrhœal discharge when not losing blood. States that she will lose blood per vaginam for three months continuously, becoming thoroughly exhausted and bloodless. The hemorrhage then gradually ceases, to give place to a profuse purulent leucorrhœa.

Examination.—Cervix lacerated bilaterally to the vault of

vagina. Both segments of cervix everted, eroded, cystic and much hypertrophied. Uterus 7.5 cm. in depth and fundus deeply retroflexed and tender to the touch. Pelvic floor relaxed and parts low down.

Treatment consisted in replacing uterus and thoroughly curetting the endometrium with the sharp instrument, removing large quantities of villous growths, some of them as large as split peas. This case is interesting, in that I had to repeat the curetting three times within the last twelve months. Each time there was removed a quantity of the same growths, and after each operation the patient improved in health for a few months, then new growths would form and give rise to hemorrhage and a profound state of anæmia. These growths have been examined and pronounced benign. The uterine walls in no part contained a myoma. The organ was simply subinvoluted. There is, however, in such cases retroflexion as a factor of much importance. It causes a passive congestion by interfering with the circulation; as a sequence of this, we have a general increased tissue growth, and especially of the endometrium, giving rise to a papillomatous formation or thickened soft mucosa, with enormously dilated blood-vessels and hypertrophy of the mucous glands. (*Olshausen, De Sinety.*) In these cases, unless we rectify the position of the uterus, remove or repair the lacerated cystic cervix, we will not prevent the recurring hemorrhages. These two cases are somewhat similar to some of those published by Dr. Woodham Webb as cases of uterine fibroids and treated by electricity after the method of Dr. Apostoli of Paris. (*British Med. Journal*, July 9th, 1887, p. 62.) I do not think, however, that Dr. Webb is justified in reporting the cases referred to as fibroids upon the one symptom of excessive hemorrhage with an intra-uterine depth of 7 and 8 cm. Neither do I think the reported successes of the electrical treatment in such cases are as satisfactory as that which we obtain from curetting, replacement and plastic operation on the hypertrophied cervix. Evidently extensive laceration of the cervix is not favorably regarded in France as a cause of subinvolution and hemorrhagic endometritis.

The following few cases represent a type of pelvic inflamma-

tion in a large number of women seeking relief at my clinic; and are interesting from the rapid relief they receive from the form of treatment adapted, known as "*uterine massage*":

E. L., aged 26, unmarried; menstruates sometimes every three weeks, sometimes every five or six weeks. Looses a good deal, and generally lasts ten days. The dysmenorrhœal pain at each period is so intolerable that she now wishes to be relieved or die. The constant iliac and back pains have brought on a distortion of her figure, in that she walks with a crippled stoop, and is unable to stand or walk erect. There is a profuse purulent leucorrhœa (uterine), intense tenderness and rigidity of pelvic floor. A general fixity of pelvic contents. The fundus of uterus turns forwards; the cervix extensively eroded. Frequent and painful micturition and painful defecation. When walking there is a peculiar dread of making a false step in anticipation of causing pain. In three weeks treatment by iodine to the vaginal vault, and massage, all pain disappeared. She menstruated almost without knowledge, and the flow lasted but four days. The uterine catarrhal discharge had quite disappeared. Erosion was healing, and the pelvic floor freely and painlessly moveable. To support the pelvic floor a large Hodge pessary was now introduced, and patient returned to her household work. The history of this girl told that she has been a sufferer for several years.

M. B., aged 28, married three years, no children; menstruation every four and sometimes every six weeks. Flow lasts from three to four days, accompanied with most severe dysmenorrhœal pain, during which she is confined to bed. There is the usual constant back and side aches and dyspareunia. On examination there is found excessive tenderness of pelvic floor, and an especially tender point in the parametric tissue immediately behind the supra-vaginal cervix. On raising the pelvic floor there is pain experienced throughout the pelvis; uterus anteflexed; cervix high up, looking down vagina. This excessively tender spot alluded to in the history of this case is a very common symptom in pelvic inflammation, and often remains when all other points of tenderness have disappeared. It

is the "parametritis posterior" of Schultze, or "utero-sacral cellulitis" of other observers. Inflammation occurring just here causes cicatrization of the utero-sacral ligaments and contraction just about the isthmus, and brings about the most severe form of dysmenorrhœa and sterility, with "pathological anteflexion" of the uterus. In this way we get an "antero-lateral flexion" of either side, or drawn backwards still in anteflexion. Pathological anteflexion due to utero-sacral cellulitis is a most important affection and not often recognized; it is not seldom due to mismanaged abortions, and of septic origin. It is frequently found in virgins and multiparæ, and may in some cases be due to zymotic diseases of childhood. Freund of Strassburg has recently described a similar affection of this tissue producing the same results, but differing from that described, in that it has no acute stage. He calls it "*Parometritis Chronica Atrophicans Circumscripta et Diffusa.*" His researches are very valuable, inasmuch as they show the advantage of such treatment as I have been describing and the utter futility of the mechanical treatment with pessaries. This patient was confined to bed on hot water injections for a week, and then iodine and massage treatment put into practice. She passed the following period without pain sufficient to speak of. The next menstruation was absolutely free from pain. She has improved markedly in general health, and will, in September, have divulsion performed to relieve the stenosed condition of the cervix and favor the occurrence of pregnancy.

C. F., aged 31, married, no children; menstruation profuse, occurring every three weeks and accompanied with severe dysmenorrhœal pains. She complained of neuralgic headache at times, culminating in severe and continued attacks of retching. On examination, parts were so excessively tender and rigid that very little could be determined beyond evidence of chronic pelvic inflammation. The uterus was rigidly set in the pelvic floor, with the fundus lying retroflexed in the well of the pelvis. Cervix small, congested, and os discharging glairy mucus. This woman was a type of a bad case of chronic pelvic inflammation, with thickening of the pelvic peritoneum and œdema of connec-

tive tissue beneath it. She would not come into hospital, so was treated with iodine and massage as an out-patient. Treatment began June 1st, and she was discharged cured July 9th. Her condition then exhibited freedom from pain during manipulation of the uterus by the bimanual. Perfect mobility of pelvic floor and of parts resting upon and composing it. Marked restoration of general health and appearance. An air cushion was introduced to support the pelvic floor.

The following case was one of *Procidentia Uteri, with Supravaginal Elongation of Cervix:*

Mrs. F., aged 52, married thirty years, eleven children. The monthly return hemorrhage still continued, which was sometimes profuse, and would last for seven or eight days. The cervix had been badly lacerated bilaterally and cicatrized partially at the corners. The lips of the os were everted and covered with deep irritable ulcers discharging pus. The sound passed seven inches from the os to the fundus. *Both fornices were obliterated* and the vaginal walls were completely outside the vulva. The fundus uteri could be palpated in the pelvis behind the pubis, and with the fingers in the vagina could be felt a long, thick, cord-like tube attached above in the pelvis by the uterine ligaments, and being drawn out below by the inversion of the vaginal walls. (The perineum, of course, had been completely destroyed.) The patient was put on carbolized hot douches for three weeks. By this time the ulcers on cervix had healed, the uterus had considerably contracted, and the vaginal walls and bladder had assumed their normal position. A modification between Schroeder's and Marckwalde's operation was performed on the cervix, and colpo-perineorrhaphy at the same sitting. The result, after a lapse of two weeks, was very good. The uterus measured two inches; the vagina and perineum were restored and firm.

Reviews and Notices of Books.

A System of Gynæcology by American Authors.—Edited by MATTHEW D. MANN, A.M., M.D., Professor of Obstetrics and Gynæcology in the Medical Department of the University of Buffalo, N.Y. Vol. I. Philadelphia: Lea Brothers & Co.

Ever since it was announced some years ago that an American system of gynæcology was projected, the profession has been eager in anticipation of the result. It has been slow in coming, but now at last we have the first volume, of 789 pages, including an index of authors and of subjects. The work is written by a number of authors, the various articles being assigned each to a gentleman specially qualified to deal with it. As all our readers know, this plan of book-writing has been much resorted to in our times, and we are bound to say that the result has been approved by the profession. There is this important difference between this and other recent systems of surgery and practice, that, as the name implies, all the contributors to this work are American. We therefore have reason to expect that we shall be specially enlightened upon American opinions and methods. In this first volume we are not disappointed. The contributors are chiefly of the younger and rising class of gynæcologists. The work opens with a historical sketch of American gynæcology, in which Dr. Jenks surely does full justice to the contributions of his countrymen, from McDowell and Marion Sims down to the present time. Then come the Development of the Female Genitals, by Dr. Garrigues; the Anatomy of the Female Pelvic Organs, by Dr. H. C. Coe; the Malformations, by Dr. Garrigues. To Dr. Grandin of New York is entrusted Gynæcological Diagnosis, while Dr. Dudley of Chicago has charge of the General Consideration of Gynæcological Surgery. Dr. Skene of Brooklyn writes on General Therapeutics; Dr. W. Gill Wylie on Menstruation and its Disorders, a subject on which the distinguished author has already written, and on which he is quite at home. The chapter on the important subject of Sterility is written by Dr. Reeves Jackson of Chicago. The concluding

chapters of the volume are: Diseases of the Vulva, by the Editor, Dr. Mann; the Inflammatory Affections of the Uterus, by Dr. Palmer of Cincinnati; Subinvolution of the Vagina and Uterus, by Dr. Reamy, Cincinnati; Periuterine Inflammation, by Dr. R. B. Maury of Memphis; and Pelvic Hæmatocele and Hæmatomata, by Dr. Ely van de Warker, Syracuse. We had almost forgotten the important subject of Electricity in Gynæcology. As our readers all know, this agent has never been so much employed in the treatment of the diseases of women as at the present time. In the light of the recent work by Apostoli and others, our hopes from this powerful therapeutic agent are rapidly becoming realized. Dr. A. D. Rockwell writes on this subject. His large experience is an ample guarantee of the way that the work has been done. The work of Apostoli of Paris and Engelmann of St. Louis get their share of attention.

We have examined more or less carefully most of the articles in the volume, and we are bound to say that the great majority are most satisfactory, while some are excellent. The illustrations are numerous, and consist of woodcuts and colored plates; of the former nearly all are copied from other sources, and a number are merely diagrammatic. Every practitioner interested in gynæcology ought to possess this work, while to the specialist it is indispensable. Like everything from the great Philadelphia Lea publishing house, the paper, type and binding are of the very best.

A Practical Treatise on Obstetrics. Vols. III and IV (four volumes).—By A. CHARPENTIER, M.D., Paris. Illustrated with lithographic plates and wood engravings. New York: Wm. Wood & Co.

These concluding volumes of Charpentier's book are even more interesting than the previous ones. Volume III takes up the Pathology of Labor, and gives an unusually good account of the various forms of maternal and fœtal dystocia. Upon these points it is almost encyclopædic, and will be found useful as a work of reference, especially as our ordinary text-books dismiss the subject in a couple of chapters. The volume concludes with a short account of ergot and its uses. Charpentier adopts Pajot's law:

"As long as the uterus contains anything, be it child, placenta, membranes, clots, never administer ergot. We reserve it, therefore, for uterine inertia after the termination of the third stage of labor. First empty the uterus of its contents and then give ergot."

Vol. IV discusses obstetric operations and the pathology of the puerperal period. Though full of information, this volume will probably be less helpful to the practitioner than might be expected. The teachings are essentially those of the French school, and differ in many points from English and American usages. Dr. Grandin's notes are here frequent and lengthy (in one case about six pages); they form a valuable commentary on the text and help to bring the subject fairly well up to date.

The illustrations are the weakest part of the work; though the publishers deserve great credit for the way in which they have placed a standard foreign work at such a low rate before the American public, yet a slight increase in cost would have enabled them to make it artistically pleasing, and would have greatly enhanced the value of their work.

What to do in Cases of Poisoning.—By WM. MURRELL, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics in the Westminister Hospital, &c. First American from the fifth English edition. Edited by FRANK WOODBURY, M.D. Philadelphia: Medical Register Co.

It is quite impossible for even the most learned practitioner to have a clear idea of what should be done in every case of poisoning. No doubt every student has the symptoms and treatment of the more common poisons at his finger-ends before he graduates, but this knowledge is not of a permanent character, as every practitioner knows who has had much experience.

Again, the number of new agents, medicinal and otherwise, of this class that are being constantly introduced and used either accidentally or purposively is constantly increasing.

Dr. Murrell's work, which has now reached its fifth edition, deals with the whole subject of poisons in a thorough, yet concise manner. It is a work that should be in the library of every practitioner.

A Compend of Electricity and its Medical and Surgical Uses.—By CHARLES F. MASON, M.D., Asst. Surg. U.S. Army. With an Introduction by CHARLES H. MAY, M.D., Instructor in Ophthalmology, New York Polyclinic. Philadelphia: P. Blakiston, Son & Co.

This small work is one of the series of Medical Briefs published by P. Blakiston, Son & Co. It deals with the various forms of electrical currents used in the treatment of disease. In such a small compass it is surprising how much important matter the author has been able to discuss. In addition to a reference of the more important physical laws underlying the proper use of electricity in therapeutics, we have a short account of the mode of application, together with the indications and contra-indications to this important agent. To the busy practitioner, who from want of time is unable to read the larger text-books, this little work will be found to be a fairly efficient and reliable guide.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, March 25th, 1887.

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

Culture of Tubercle Bacillus.—DR. JOHNSTON called the attention of the Society to a new method of cultivating the bacillus of tubercle, and exhibited several cultures.

Extirpation of the Kidney.—DR. WM. GARDNER exhibited a kidney removed by lumbar incision. The patient, aged 56, of intemperate habits, had been complaining since 4th Dec. last (three and a half months), when she took suddenly ill with rigors, fever and pain in right lumbar region. The symptoms were acute and severe—severe rigors, profuse sweating, severe pain, frequent vomiting, and continued so till the operation. The urine contained pus at intervals, and micturition was frequent and painful. The patient was very fat. On examination, a diffuse, very tender, ill-defined swelling in the right lumbar and hypochondriac region. No fluctuation. On percussion over the

swelling, intestinal note. Exploratory abdominal incision over the swelling. Parietes enormously thick. Omentum extremely fat. By palpation the tumor was now ascertained with tolerable certainty to be the kidney. The abdominal incision was closed and the kidney, containing half a pint of pus, was removed by the lumbar incision. No calculus or any other cause for the suppuration could be found. The patient was watched in hospital for two days before the operation, when the secretion of urine was almost *nil*. For the first twenty-four hours 40 ounces were secreted and passed naturally; for the next twenty-four hours none at all. On the third day she was distinctly soporose. A small quantity of urine passed in bed. The same on the fourth day after the operation, the day she died. Just before death four ounces was drawn off by the catheter. No autopsy allowed.

Discussion.—DR. JOHNSTON said the kidney seemed to show a condition of chronic hydronephrosis, accompanied by an acute nephritis. The collection of pus did not appear of long standing; there was no pyogenic membrane.

DR. SHEPHERD could not quite agree with Dr. Gardner's treatment of this case. Nephrotomy seemed to be called for in this case, not nephrectomy. He did not think a nephrectomy should ever be performed without a previous nephrotomy, as no seriously diseased kidney could be shelled out readily. The history seemed to point to pyonephrosis, and the large amount of urine passed after the operation might be due to a collection outside the injured kidney.

DR. TRENHOLME referred to a similar case occurring in his practice. There was a cyst in the neighborhood of the kidney, which he tapped and drew off about two quarts of fluid. Patient's symptoms were greatly relieved, but the cyst returned, and on again tapping three pints were obtained. The patient gradually got worse, however, and the post-mortem examination showed an obstruction of a valvular nature in the ureter, near the hilum of the kidney.

DR. GARDNER, in reply, stated that the case was not an easy one to diagnose, as the panniculus adiposis was so thick the

nature and situation of the tumor could not be satisfactorily made out. The patient was desperately ill, and the operation was undertaken as a last resource.

Extirpation of the Uterus.—DR. GARDNER exhibited a uterus he had removed a week before. The patient was 47 to 50 years old. Menses ceased two years before; occasional hemorrhages continued. No serious pain, but a constant discharge. The case was then regarded as one of sarcoma. The operation was easy. Dr. Johnston concluded, however, that it was carcinoma. The tumor was in the form of a series of outgrowths in the cavity of the uterus.

DR. TRENHOLME congratulated Dr. Gardner on the success of his operation, and said, with regard to extirpation of the uterus for malignant disease, that while he had performed the operation some seven or eight times with much immediate success, yet in *all* cases the disease rapidly returned. He now no longer regarded the operation with any favor.

Laparotomy.—DR. TRENHOLME exhibited a cyst, about the size of an egg, removed from a patient 19 years of age, confined of her first child eleven months ago, since which time she has been ill. Previous to her accouchement she had enjoyed good health, but was attacked with a severe pelvic arthritis and peritonitis three days after she was delivered of her child. Her present state is one of constant suffering, with pains in body and general nervous and gastric derangement. Temperature varies from 99° to 101° and 102°; pulse from 100 to 140. Lips and teeth exhibit usual feverish conditions. On examination, find a tumor level with Poupart's ligament filling a good part of pelvis on right side. Tumor was dense and strongly adherent to wall of pelvis; not perceptibly moveable, and somewhat nodular.

Operation.—On opening cavity of abdomen, the mass was found to coalesce with surrounding structures, and at no point was it at all possible to separate the mass. The specimen shown to-night was situated between the bladder and the uterus. As operation could not be completed, the abdominal wound was closed. The patient bore the operation well, but on the fourth day a profuse and fœtid flow began to escape from the abdomi-

nal wound, and as the state of pulse, high temperature, etc., gave little hope for continuance of life, the patient returned to her home in the townships. She bore the journey (120 miles) well, and at the end of two weeks was rather better than when she left the city.

Dr. Trenholme remarked that this was the fourth serious case of abdominal section he had had in succession, all of whom, he was glad to say, had so far recovered. One was a solid cyst of left ovary (8 lbs.) ; one a suppurating cyst of left ovary (12 lbs.) ; one a dermoid cyst (4 lbs.), and the present case.

Case of Nephro-lithotomy.—DR. SHEPHERD related the case. He said :—

The following case is of interest, not only on account of the large size of the stone removed, but also because the question of the comparative merits of nephrotomy and nephrectomy is raised in such conditions of the kidney as existed in this case. The patient was sent to me by Dr. J. R. Johnston of Spring Valley, Minnesota, with a letter stating he suspected the man was suffering from stone in the kidney. The history of the case and condition on entrance I quote from the Hospital Report:

" W. C., aged 26, was admitted into the Montreal General Hospital on the 18th of October, 1886, with a history of long-continued pain in the left lumbar region and pus in the urine.

" *History.*—Family and personal history good. Seven years ago he first noticed that small quantities of blood were passed in the urine at the end of micturition ; four years ago, blood was mixed with the urine, giving it a smoky appearance. Has seen no blood in his urine for two years. During the last seven years he has been troubled with continuous pain, not always very severe, in the left loin, occasionally radiating downward to the crest of the ilium. He occasionally has periods of very severe pain lasting for some two or three weeks, after which he is comparativoly well ; of late years these periods of pain have not been so frequent, and when they do occur the pain is of a sickening character and causes morning vomiting. Sudden movement, as sneezing and coughing, brings on an attack of pain. Five years ago first noticed a whitish deposit in urine;

up to a few months ago this was quite small in amount, and was passed with the morning urine. No history of renal colic.

"*Present condition.*—Is a fairly well nourished young man, of medium size, and with an anxious expression of countenance; complains of dull, aching pain in left lumbar region, and immediately below the last rib, in the axillary line, is a very tender spot the size of a twenty-five cent piece. He says the pain radiates from this point. Urine has a specific gravity of 1.015, and contains 15–25 per cent. of pus. Some days there is only a trace of pus. At other times there is as much as 25 per cent. Urea, 7½ grains to an ounce. Amount of urine daily excreted, 40–50 ounces.

"By external examination no tumor or fulness can be detected on the left side."

On the 28th of October he was put under ether, and the abdomen thoroughly examined by both Dr. George Ross and myself, but no tumor could be made out. The left loin was carefully explored with the long needle of an aspirator, but failed to reach either pus or a calculus. It was concluded, from the history of the case and the symptoms, that a stone probably existed in the pelvis of the left kidney; so, after consultation with my colleagues, I decided to cut down on the left kidney by lumbar incision, and explore it.

Operation.—October 30th, the patient being under ether, was placed on his right side, with a hard pillow under the right lumbar region, and a horizontal incision was made close below the last rib of the left side, commencing at the edge of the erector spinæ muscles, and extending downward and forward for some five to six inches. After dividing the muscles of the abdomen, the quadratus lumborum was reached, the lumbar fascia divided, and the kidney searched for; the lower end was felt at a considerable depth, in fact, it could be barely reached with the fore and middle fingers of the right hand, so the opening in the loin was enlarged by an incision at right angles to the first, making the wound a crucial one. A long needle was introduced into the kidney, and a calculus was immediately felt. The kidney being steadied by pressure from without, I made an

incision down to the stone in the long axis of the organ, of some three inches. Through this incision an immense stone could be felt with the finger, but owing to its great fixity and large size it could not be dislodged. Whilst endeavoring to remove the stone, I accidentally ruptured a large artery, which ran to the lower end of the kidney, and was, no doubt, a supernumerary renal; the hemorrhage was profuse, and I immediately introduced one hand into the wound, and so prevented further bleeding, while with the other I managed to catch the bleeding vessel with a pair of long artery forceps. The stone proved too large to be grasped by a lithotrite, and too hard to be broken by a cutting forceps. I attempted to break it with a chisel and mallet, but failed, because of the difficulty of getting fixation of the kidney. The incision in the kidney was now further enlarged, and the stone gradually separated from the kidney tissue with the finger; even now, owing to the prolongations into the calices, the stone could not be removed. With considerable difficulty I managed to free the lower end of the stone which blocked the entrance of the ureter, and lifting it up, requested Dr. James Bell to grasp it with a pair of large lithotomy forceps; this was done, and the stone was brought away after the expenditure of considerable force. On examining the removed stone, it was seen that there were a couple of projections on it, one of which appeared to have been freshly broken off; so the hand was again introduced into the wound and a large fragment removed from a calyx; other smaller pieces were also removed. As the patient had been already an hour on the table, and was becoming weak from shock and loss of blood, no further exploration took place.

During the operation not a single drop of pus was seen; none apparently surrounded the stone, which was quite closely embraced by the surrounding kidney substance. So far as naked eye appearances went, the part of the kidney seen was perfectly healthy. At one time, I thought it would be necessary to remove the kidney, as it seemed impossible to remove the stone without it, but the very healthy appearance of the portion of the organ seen (the lower end), and the absence of pus,

determined me to persevere, and, if possible, remove the stone and leave the kidney till the condition of the other could be ascertained. At no time during the operation could the kidney be brought to the surface, and the operation had to be performed by feeling more than sight.

After washing out the wound thoroughly with a 1: 2000 solution of corrosive sublimate, and introducing a large drainage tube, the wound was brought together with silk sutures, and dressed with sublimate jute pads. At the close of the operation the patient was in a fairly good condition, and did not show much evidence of shock; and, although he had lost a considerable amount of blood, his pulse was full and strong, and not more than 80. The weight of the removed stone and fragments immediately after the operation was 4 oz., 7 drachms. It measured 3½ inches in length, and 9 inches in circumference, and consisted entirely of triple phosphate.

After the operation, which took place at 2 P.M., the patient did not pass any urine till noon next day, when he voided 7½ oz. As there had been a great deal of oozing, the wound was dressed next day. Temperature, 101°. Pulse, 120. He still had vomiting from the ether.

Nov. 1. He passed 32 oz. of urine which was free from pus and blood.

For some time the patient progressed slowly toward recovery; his temperature ranged between 98° and 100°, and the amount of urine from 25 oz. to 50 oz. daily. The wound, which was not very sweet, and from which came large quantities of urine, gradually healed, and the tube was removed in the early part of December. He now began to have high and irregular temperature, with some sweating; from the 10th to the 25th of December his temperature ranged from 98° to 102°, and for several days after reached, in the afternoon, as high as 104°–105°. Fearing that some collection of pus was forming about the kidney, I re-opened the wound, introduced my fingers, and explored the pelvis of the kidney, but without result, except that a few flakes of calcareous matter were brought away. It was now decided to cut down and remove the kidney, but the

patient quite unexpectedly took a turn for the better, and improved so much that, in the early part of January, he was able to go about the ward, enjoy his meals, and gain flesh. The sinus in his right loin never healed, but continued to discharge large quantities of urine with a small amount of pus. At this time my service at the hospital having expired, I only saw my patient occasionally. His temperature was for several days quite normal, and then for a time would range as high as 101°. The amount of urine varied from 30 oz. to 40 oz. daily. I saw him early in February, going about, and apparently in fair condition. On the 10th of February he suddenly became jaundiced, his temperature rose to 102°, and he had severe sweatings. I saw him, and examined his side carefully, but could discover no evidence of any collection of pus about the wound, and the amonnt of urine reached 40 oz. daily. The fistulous opening in his side discharged urine freely, and a very small amount of pus stained the dressings. He gradually became worse, and died comatose on the 14th of February, three and a half months after the operation.

The autopsy was performed by Dr. Wyatt Johnston, pathologist to the hospital, and the following is taken from his report: "Body jaundiced. In left lumbar region, a depressed cicatrix about two inches long, is seen with a sinus toward the centre, from which fetid pus can be squeezed out. On opening the abdomen, a large oval mass is seen in left lumbar and extending up into the left hypochondriac region. This mass has a quantity of fibrous exudation surrounding it, and is very difficult to remove, being firmly attached to the lumbar muscles, spleen, and vault of the diaphragm. The retro-peritoneal glands are acutely swollen, but show no signs of suppuration. The aorta and vena cava are not directly involved in the mass, and can be readily dissected off. Near the inferior extremity of kidney, two inches above the crest of the ilium, a small artery, one and a half inches long, running directly from aorta to kidney is seen; it is obliterated, apparently from a ligature. The fatty capsule of the kidney is densely infiltrated with fibrous tissue, and cannot be removed without tearing the kidney

substance; the left kidney itself is greatly enlarged, and forms a fluctuating mass weighing nearly 1,000 grammes. On opening the pelvis, a little fetid pus escapes, and the sinus in the loin is seen to open into it. On palpation a small calculus mass can be felt towards the cortex in one of the calices of the kidney, the calculus is the size of a hazelnut and appears to be broken off in one spot. It is enclosed in a small pocket of pus. The ureter immediately below the pelvis of the kidney is completely obstructed and its walls are much thickened. On incising the kidney along its convexity it is found to consist in the upper portion of a series of large communicating sacs containing over ten ounces of fetid pus. These cavities do not communicate with the sinus or the pelvis of the kidney, but are completely shut off from the rest of the kidney by thick, fibrous walls, showing that the disease is of long standing. Within these sacs lie five or six irregular branched calculi, varying in size from a bean to a walnut. The lower fourth of the kidney contains a considerable quantity of healthy renal structure. Bladder and lower part of ureter normal. Right kidney double normal size and looks to be perfectly healthy. Liver shows numerous enlarged lymph glands lying beside the bile ducts, but bile can be easily expressed. Other organs healthy."

There is not the slightest doubt that this patient died of septicæmia due to the fetid abscesses in the upper end of the kidney. These could not be diagnosticated by external manipulation, and from the fact that the part of the kidney seen at the operation was healthy in appearance and contained no pus, the condition of its upper end was not suspected So far as the operation itself went, it was successful, but one lesson may be learned from this case, viz.: that with a large stone in the pelvis it is almost impossible to have a kidney which has not undergone grave changes, and its thorough exploration by incision is indicated. Had there been pus around the stone and the kidney tissue not looked so healthy, I should have attempted to remove the kidney, but I had in my mind a specimen in the Museum of the Medical Faculty of McGill University, where

the pelvis of each kidney, in a man, is filled by an enormous stone, whilst the surrounding kidney structure is comparatively healthy, and where there was not a drop of pus or the sign of disorganization. In my case, however, although in the immediate neighborhood of the large calculus the kidney was healthy, yet the greater portion was composed of pus cavities containing stones unconnected with that in the pelvis. The kidney was placed so deeply and situated so high up that, with even the very extensive lumbar incision which was made, it could not be properly explored, and I very much doubt if it could have been successfully removed by the loin. Its removal, owing to the numerous adhesions to important organs and its location, would have been a matter of serious difficulty, if not an impossibility, even by abdominal incision, for at the autopsy by the combined abdominal and lumbar incision it was only by cutting freely the surrounding parts that its excision was accomplished.

In such a case incising the kidney in every part, evacuating the pus, and removing the calculi would be the proper procedure. Diseased kidneys which enlarge downward are much easier to remove by lumbar, and also abdominal incision, than those which enlarge upward, and are wholly under cover of the ribs.

There is another point about this case which is worthy of notice, and it is this: When a kidney is highly placed it may be enlarged so as to form a considerably sized tumor, which cannot be detected by the most careful palpation, even when the patient is placed under ether. The failure to find the stone by needle exploration, before the operation, was due to the same cause—the high position of the tumor and its great depth.

In connection with this case I might mention one reported by Prof. Guyon, of Paris, which is very similar to the one narrated above. In Guyon's case, however, a distinct tumor could be felt externally. After cutting down on the tumor and incising it he found the pelvis of the kidney completely filled by an enormous stone with processes extending into the calices, these processes were cut off with forceps and the large calculus extracted with difficulty; after the removal of the smaller pieces, the pelvis of the kidney was explored with the finger and

sound, and no more stones could be felt. The patient died some two weeks after from hæmoptysis, and at the autopsy it was found that the kidney was so adherent to the surrounding parts that it probably could not have been extirpated. Several more stones were found in the upper end of the kidney in cavities separated from the pelvis by connective tissue. Prof. Guyon, in the course of his remarks on this case, states that here nephrotomy was preferable to nephrectomy, and that had the kidney been properly incised the other stones would have been found, that in such cases the kidney should be freely incised and every nook and cranny explored; he holds that if this were done in cases of calculous pyelitis nephrectomy would never be called for.

Formerly it was feared that free incision of the kidney would cause severe and dangerous hemorrhages, but experience has taught surgeons that the danger is an imaginary one, and that kindneys which are much disorganized may be incised without fear of bleeding, and that even in healthy kidneys the hemorrhage from incisions is easily and permanently controlled by pressure.

In such cases as the one above narrated, where the stone is of great size and the kidney is enlarged, the mere extraction of the stone in the pelvis should not satisfy the operator; he should thoroughly examine the kidney in every part by free incisions so as to be sure no calculus is left behind. External manipulation of the kidney is not sufficient to detect stone, and in such cases as my own, even exploration through the kidney pelvis would fail, without further incision, to detect calculi unconnected with that in the pelvis.

Up to a short time ago the largest stone removed by lumbar incision was under two ounces in weight. Lauenstein reports a successful case of removal of a large calculus (weighing 25 grammes and composed of the triple phosphates) from the pelvis of the kidney. He had to break the stone with a lithotrite before he could extract it. In his paper he states that it was the largest stone removed up to that time, though not the heaviest. Three months after the operation, the sinus in the

loin had completely healed, and when the article was written the patient was perfectly well.

Dr. John Neill, after relating a case of large renal calculus found after death, quotes from *Cyclop. Pract. Med.* the following case: "A remarkable instance of such calculus occurred in the person of a natural daughter of Sir Richard Steele. No nephritic symptoms took place until shortly before death, when severe pain was felt in the region of the right kidney, fever followed and speedily proved fatal. A calculus of oxalate of lime weighing 7½ ounces was found in the right kidney, which was so thin by absorption as to be reduced to a mere membrane. In this instance the stone could be felt, during life through the loins, inducing a belief that the kidney had become ossified (Catal. Museum of Royal Coll. Surg., London. Note by John Hunter)." In this case there was evidently but little suppuration, or the stone could not have been so easily recognized.

Mr. Victor Horsley, on Sept. 16, 1885, removed a stone weighing 2¼ ounces from the pelvis of the kidney of a middle-aged woman; ten days after she was doing well. It was the largest stone removed from the kidney up to that time.

Mr. W. L. Brown reported a case before the Birmingham and Midland Counties Branch of the British Medical Association, in May last, where he had removed from the kidney by abdominal section a stone weighing 11 ounces. The kidney tumor occupied the right half of the abdomen and contained three pints of pus. The cut edges of the cyst were stitched to the abdominal walls and the cavity drained. The patient died suddenly eleven days after the operation from heart clot. So far as I know, the stone in my case is the largest ever removed by lumbar incision.

Discussion.—DR. BELL said that he had watched this case with great interest for some time, and considered the question of the best method of dealing with such cases a very difficult one. It would be impossible to drain so many pus cavities even if all the outlying calculi could be removed. Excision of the whole kidney would, perhaps, have given better results, though such an operation was scarcely indicated at the time.

DR. JOHNSTON said that the post-mortem showed that it would only have been possible to remove the kidney by resecting two or three ribs, so firmly attached was the mass about the kidney.

Stated Meeting, April 15th, 1887.

T. J. ALLOWAY, M.D., 2ND VICE-PRESIDENT, IN THE CHAIR.

Yeast Saccharometer.—DR. REED showed a very neat and useful little piece of apparatus called the Einhorn's Yeast Saccharometer, for qualitative and quantitative estimation of glucose in urine. A full description and a woodcut of the apparatus appeared in the June number of this JOURNAL, page 644.

DR. RUTTAN referred to the recent introduction of alpha-naphthol and thymol as tests for the presence of sugar. These, if reliable, were far too delicate for clinical purposes, as the sugar normally present in the urine can be shown when the latter is diluted one to two-hundred. He also referred to the periodic absence of excess of glucose in diabetic cases when under proper diet, and stated that proportion of acetone and aceto-acetic acid is usually increased during these intervals. The iodoform test for acetone was probably the best, but required to be carefully made. Nitro-prussiate of sodium and sulphuric acid gives a fine rose-color with urine containing acetone. This reaction, however, has not been shown to be peculiar to acetone.

Unusual Cases of Hysteria.—DR. GEORGE ROSS then read a paper on some unusual cases of hysteria, which appears in full in the present number of this JOURNAL.

Discussion.—DR. STEWART said the first two cases described by Dr. Ross were interesting and very peculiar. While it may be wise, in acute symptoms in young persons, to give positively a favorable prognosis, there is no doubt many cases of paralysis of hysterical origin are perfectly incurable.

DR. SHEPHERD referred to the case of a young student who had hysterical vomiting, lasting for months, and resisting all treatment. He was so reduced in flesh that the transverse duodenum could easily be felt through the abdominal walls. He was sent home, there got better at once, and returned well and fat. He believed in a positive statement of cure in cases of

hysteria, and referred to a case of hysterical spine of long standing that had been cured by the faith cure.

DR. WILKINS felt convinced that one cannot be too dogmatic and positive in promises of cure in hysterical cases. He referred to a recent case in hospital of hysterical contraction of the muscles of one arm. The case was at first very puzzling, but when hysterical symptoms were made out, a certain cure was promised and the patient put under ether, and on recovering from the effects of the anæsthetic was completely cured. The mystery of what was done to them while under ether often effects a cure.

DR. REED said that real affections of the joints may occur with hysterical symptoms in the same patient. He referred to a case in the General Hospital where hysteria was diagnosed, and yet there was a real affection of the knee-joint.

DR. GEO. ROSS, in reply, said that it was very difficult, in chronic cases, to make a positive prediction. Charcot states that there are actual changes in the cord in many hysterical cases of a chronic character.

Stated Meeting, April 29th, 1887.

DR. TRENHOLME IN THE CHAIR.

Monobrachial Chorea, not post-Hemiplegic.—DR. WOOD exhibited a case of monobrachial chorea, not post-hemiplegic, in a boy 15 years of age. Had variola in the winter of 1885-86. Discharged from hospital in January, 1886, with ulceration of right cornea; otherwise well. The attack of chorea began in March, two months after discharge, and has continued since. He never had paralysis, rheumatism, or any cardiac trouble, and now his general health is good. When asleep the choreiform movements cease, and he exercises a certain amount of control over them at will. Only when he attempts to co-ordinate his arm and hand muscles is the chorea very apparent. He cannot use his knife or fork at table, but can chop wood, move furniture, and do similar work. Pressure over the median nerve near the elbow controls the movements. He had been attending the public school, where the hours extend from eight o'clock in the

morning until five in the afternoon. He was kept at home during the past two months, and he has decidedly improved. Weir Mitchell says that cases of localized or limited chorea are not the result of embolism, but are generally due to acquired habits, and hence he calls such cases "habit chorea." Dr. Wood did not see how his case could be so classed.

Discussion.—DR. BULLER said this case was particularly interesting in view of the recent theories regarding the influence of eye lesions in producing general nervous affections. One physiologist claims that most nervous affections are traceable to ocular affections. The irritation of the ciliary nerve produced by a shrunken eye-ball has caused general epilepsy. Again, chorea has been traced to weakness of the ocular muscles; difficulty of co-ordination of the eye-muscles is productive of many nervous affections more or less severe. It is a common cause of nervous headache. Applying these general principles to the case exhibited, Dr. Buller called attention to the condition of the eye on the affected side; the patient was quite blind, the eye was shrunken, and there was infiltration of the cornea, though not excessively painful to the touch. He concluded that there was at least a possibility that this peculiar chorea was due to the irritation of the shrunken eye-ball. He suggested enucleation of the useless eye as a possible means of cure. The fact that the boy's condition improved after removal from school might be due to the relief thus afforded to the ciliary muscle.

DR. TRENHOLME referred to the use of arsenic in the treatment of chorea. As usually administered (three to five minim doses) he did not think it was of much remedial value, but he had obtained good results by gradually giving a large quantity. He made a practice of beginning with three minims of Fowler's solution three times a day after meals, increasing this to five minims and continuing the administration till the toxic effects were visible, then discontinue for a time. He usually preceded each meal with a dose of saccharated carbonate of iron.

Pathological Specimens.—DR. JOHNSTON exhibited some interesting specimens from a case of chronic hydronephrosis. The case occurred in the practice of Dr. R. L. MacDonnell. Dr. Johnston was unable to give the history of the case.

Selection.

The Summer Diarrhœa of Infants.—We are approaching the great summer epidemic of the cities, from which more than two thousand infants perish every year in New York between the middle of June and the middle of September. The anatomical characters of this malady show it to be an intestinal catarrh or inflammation, due to causes dietetic and atmospheric, which exist in the cities in consequence of the summer heat. The statistics of each year indicate the importance of this malady, and how urgently measures are required to diminish its frequency and severity. The last annual report of the N. Y. Board of Health giving the vital statistics was made in 1875, since which time weekly bulletins have been issued. Notwithstanding the enforcement of sanitary regulations by the Health Board, the statistics of each year, so far as they are accessible, show that this disease is far from being controlled, and that it every summer largely increases the aggregate of deaths. The deaths from diarrhœa at all ages in the last three years in which annual reports were issued were as follows:—

	1883.	1874.	1875.
January	94	43	46
February	84	34	52
March	93	40	58
April	114	47	45
May	95	61	89
June	220	144	157
July	1,514	1,205	1,387
August	967	1,007	1,012
September	424	587	608
October	213	255	185
November	87	105	57
December	53	56	50

That nearly all who die from this diarrhœa are infants is well known by every New York physician, and this fact is repeatedly stated or implied in reports made by the Health Board. Thus, in their annual report for 1870, the Board state: "The mortality from the diarrhœal affections amounted to 2.789, or 33 per cent. of the total deaths; and of these deaths 95 per cent. occurred in children less than five years old, 92 per cent. in children less than two years old, and 67 per cent. in children less than a year old."

The prevalence and severity of the summer epidemic in the cities correspond closely with the degree of atmospheric heat. In New York it begins in the month of May, in a few isolated cases, and cases become more frequent and severe as the weather grows warmer until July and August, when the diarrhœa attains

its maximum prevalence, and the cases are most severe and fatal. That atmospheric heat does not in itself cause the diarrhœa is evident from the fact that in the rural districts there is the same itensity of heat as in the cities, and yet the summer complaint does not occur. The cause must be looked for in the state of the atmosphere engendered by heat, where insanitary conditions exist, as in a large city. Observations show that the noxious effluvia, with which the air becomes polluted under such circumstances, constitute or contain the morbific agent. Thus, in one of the asylums in this city a few years since, on May 10th, which was an unusually warm day for this month, a very offensive odor was noticed in all the wards, which was traced to a large manure heap which was being disturbed in the vicinity of the Asylum. The previous health of the inmates had been good, but on this day four young children were severely attacked with diarrhœa, and one of them died. Many other examples might be cited, showing how the foul air of the city during the hot months, when animal and vegetable decomposition is most active, causes diarrhœa. Several years since, while serving as sanitary inspector for the Citizens' Association in one of the city districts, my attention was particularly called to one of the streets, in which a house to house visitation disclosed the fact that nearly every infant between two avenues had diarrhœa, and usually in a severe form, not a few dying. This street was compactly built with wooden tenement houses, on each side, and it contained a dense population, mainly foreigners, poor, ignorant and filthy in their habits. It had no sewer, and the refuse of the kitchens and bed-chambers was thrown into the street, where it accumulated in heaps. Water trickled down over the sidewalks from the houses into the gutters, or was thrown out as slops, so that it kept up a constant moisture of the refuse matter, which covered the streets and promoted the decay of the animal and vegetable substances which it contained. The air in the domiciles and street, under such conditions of impurity, was necessarily foul in the extreme, and stifling during the hot days and nights of July and August, as I had abundant opportunity to observe, and it was evidently the important factor in producing the numerous and severe diarrhœal cases which were in these domiciles. In another locality, occupied by tripe dealers and a low class of butchers, who carried on bone-boiling at night, the air in the domiciles and street was so foul and loaded with imprities, that they could be distinctly perceived, not only by the smell, but also by the taste, for the disagreeable and peculiar taste produced by respiring this air remained in

the mouth a considerable time after making a night visit. In this locality infantile diarrhœa was very prevalent and fatal during the hot summer months. Similar instances showing the causative relation of foul air to diarrhœal attacks abound in medical literature. Thus Murchison states that twenty out of twenty-five boys were affected with vomiting and purging from inhaling the effluvia from the contents of an old drain near their school-room. Infants who have less power of resistance are more liable to diarrhœal attacks from inhaling noxious gases than are adults. In a populous city, with its crowded tenement houses and uncleanly habits of the laboring class, impurities of the respired air are, therefore, a potent cause of infantile diarrhœa during the hot months.

The exact nature of the agents in the atmosphere which produce the diarrhœa, whether they be entirely gaseous or partly microscopic organisms, is an interesting subject for inquiry.

The impurities which abound in the air of a large city through the action of atmospheric heat are very numerous. Among those of a gaseous nature are sulphurous acid, sulphuric acid, sulphuretted hydrogen; various gases of the carbon group, as carbonic acid, carburretted hydrogen, and carbonic oxide; gases of the nitrogen group, as the acetate, sulphide and carbonnate of ammonium, nitrous and nitric acids, and at times compounds of phosphorus and chlorine (Parkes). A theory deserving consideration is that certain gaseous impurities found in the air form purgative combinations. D. F. Lincoln, in his interesting paper on the atmosphere in the *Cyclopædia of Medicine*, writes in regard to sulphurretted hydrogen: "When in the air freely exposed to the contact of oxygen, it becomes sulphuric acid. Sulphide of ammonium in the same circumstances becomes a sulphate, which, encountering common salt (chloride of sodium) produces sulphate of sodium, and chloride of ammonium. The sulphates form a characteristic ingredient of the air in manufacturing districts." The sulphates we know are for the most part purgatives, but whether they or other chemical agents exist in the respired air in sufficient quantity to disturb tne action of the intestines, even where atmospheric impurities most abound, is uncertain.

Solid impurities in the air of a large city, also, are very abundant, as one may observe by viewing a sunbeam in a darkened room, which is made visible by the numerous particles floating in it. These particles consist largely of organic matter, which often has been carried a long distance by prevailing winds. The

remarkable statement has been made that organic particles of African production have been found in the atmosphere of Berlin. Ehrenberg discovered fragments of animalcules of various kinds floating in the air—rhizopods, tardigrades, polygastrics, etc. Monads, bacteria, vibriones, amorphons dust containing spores are among the substances found in the air of a large city. The well-known hazy appearance of the atmosphere resting over New York city, when viewed at a distance on a sultry and quiet summer day, is due largely to solid impurities. These minute organisms floating in the air which we breathe have assumed great importance in the study of diseases, since microbes are now known to sustain an etiological relation to many diseases, the causes of which have till recent years been obscure.

Low organisms enter the system not only from the air which surrounds us, but in our daily food. Prof. Henoch, of Berlin, a distinguished authority in diseases of children, writes in reference to the causes of cholera infantum: "There is no doubt that high atmospheric temperature increases the tendency to fermantative dyspepsias, which are present in imperfectly nourished children at all seasons, and causes them to appear not only epidemically, but also in an extremely acute form, which is not frequent under ordinary circumstances. This would lead to the conclusion that in addition to the heat, infectious germs are present, which, being developed in great masses by the former, enter the stomach with the food." While, therefore, atmospheric heat, stated in a general way, must be regarded as the potent cause of infantile diarrhœa of the summer season, it probably produces this effect in part by its direct action, and in part by bringing into existence noxious agents, as gases and minute organisms, which irritate the gastro-intestinal surface, disturb its function, and produce fermentation in place of healthy digestion.

The second factor in causing the summer diarrhœa is the use of improper food—food which in its nature is unshitable for infantile digestion, or which quickly undergoing fermentative changes through the effect of summer heat, acts as an irritant to the intestines and causes diarrhœa, For infants under the age of twelve months, the mother's milk is, of course, as a rule, the proper food, since it is that which Providence provides, but in a great city, with its large laboring class, with multitudes of mothers poorly fed, over-anxious and over-worked in their endeavor to provide for large families, numerous instances occur in which maternal lactation is inadequate or impossible, and other food than breast milk must be provided. One not a resi-

dent would scarcely be able to appreciate the difficulty which is experienced in a large city in obtaining proper diet for infants, who, if they do not receive breast milk, should be furnished with that food which most closely resembles it in its chemical character. Animal milk having the closest resemblance should, therefore, form the basis, or be a chief ingredient in dietetic preparations designed for infant feeding, and, from its greater abundance, the milk of the cow must be employed rather than that of the goat or ass. But it is difficult to obtain cow's milk which is uniformly good and properly preserved. That from cows stabled in the city, or having a limited pasturage near the city, and fed in addition on a mixture of garden and distillery products, the latter often predominating, is usually deficient in nutritive properties, prone to fermentation, and, from microscopical and chemical examinations which have been made, it is often found to contain deleterious ingredients. If milk be obtained from distant farms, where pasturage is fresh and abundant, and in New York city this is the usual source of supply, considerable time elapses before it is served to customers, so that, particularly in the hot months of July and August, it frequently has begun to undergo lactic acid fermentation when it is served to customers. That dispensed to families in the morning is the product of the milking of the previous morning and evening. The use of such milk in the feeding of infants is a common exciting cause of the summer diarrhœa. These preliminary remarks relating to the etiology of this disease will help us to a better understanding of the important subject which we are about to consider, to wit, its hygienic treatment.

Preventive Measures.—The operation and the causes which produce this disease may, to a great extent, be prevented by the employment of the proper regimenal measures. Special pains should be taken that the air which surrounds the infant, and which it constantly breathes, should be as free as possible from noxious exhalations. Pure air may, to a great extent, be procured by personal, domiciliary, and street cleanliness. The apartments should be well ventilated during the hot months, without exposing the infant to currents of air; and the infant should be much of the time in the open air, in the day time, and to be taken to localities where the air has its maximum purity, as in the parks and outside the city limits. At the same time, direct exposure to the sun's rays should be avoided. Removal to the country, when practicable, for the purpose of obtaining pure air at night, as well as in the day time, is an important preventive measure, for at night the atmosphere of a large city is especially impure, and in the sleeping apartments, particularly

in the crowded tenement houses, where a majority of the cases of the summer diarrhœa occur, it is often stifling.

The infant, until the age of ten or twelve months, should be nourished at the breast, so far as the mother's health will allow, and her milk suffice. Earlier weaning, without the best and strongest reasons, should be discouraged, for those prematurely weaned are very liable to contract the summer diarrhœa. I never allow weaning if it be possible to avoid it in the summer months or immediately before them. If weaning in midsummer be necessary in consequence of sickness of the mother, or other cause, I advise the removal of the infant to the country, and its weaning there. In the pure country air, with fresh and suitable food, weaning in hot weather is much less likely to cause indigestion and diarrhœa than in the city. A common cause or inducement to sudden weaning in midsummer is the fact that the mother discovers that she is pregnant, but even in this condition I ordinarily advise her not to wean until after the heated term unless she will go to the country and wean there. It is better, I think, that she incur the double drain upon her system than the risks to the infant of weaning abruptly in the city when the weather is hot. The preferrable way under such circumstances is to suckle at longer intervals, and make up the deficiency by artificial feeding.

It is evident that in endeavoring to prevent this summer epidemic more attention should be given to the milk supply of the cities than it has heretofore received. During the last three years Prof. Vaughan has detected and investigated a ptomaine, the tyrotoxicon, which is liable to develop in cow's milk at the temperature of summer heat, when air is excluded from the milk, as in closed bottles or cans, and he thinks it not improbable that other similar agents will yet be discovered. Experiments with the tyrotoxicon show it to be an acrid poison, producing the severe symptoms of vomiting and purgation, which characterize typical cases of cholera infantum. It caused the well-known milk poisoning at Long Branch from the use of milk seven or eight hours after the milking—in so short a time was it produced in closed cans, through the action of animal and atmospheric heat. The active agent in causing tyrotoxicon to appear is, according to Vaughan, "either the butyric acid ferment, or some ferment, which is frequently developed along with the bacillius butyricus" (*Medical News*, June 18th, 1887).

Prof. Vaughan very properly says that, in order to attain the highest degree of success in preventing the summer diarrhœa, it is necessary to extend attention to the feeding and management of cows in the dairies, that no poisonous or noxious plants

should grow in the pastures where they graze, that their stables should be clean, and their udders washed before the milking, if they be at all soiled; that all cows which exhibit the least ill-health be excluded from the dairy. Prof. Vaughan adds, that "cows must not be fed upon swill or the refuse of breweries, or glucose factories, or any other fermented food * * * must not be allowed to drink stagnant water, but must have free access to pure, fresh water * * * must not be heated or worried." The milk should immediately after the milking be exposed to the air in open vessels surrounded with ice or cold, rnnning water, and the temperature be reduced within an hour to 60°, and "no buyer should receive milk which has a temperature higher than 65° F." Only a brief sojourn in the dairying section is requisite to show how seldom such excellent advice is followed out, and when we see the perils which surround our infants due to the faulty milk supply, we are tempted to ask if the shops do not contain foods which are safer for their use. The masses must be made to understand the importanco of watching more closely their milk supply, before we can expect to diminish materially the frequency and severity of the summer diarrhœa.

Treatment.—Notwithstanding the enforcement of sanitary regulations by Health Boards, and earnest and judicious advice given by physicians, the summer diarrhœa continues, and is likely to continue the annually-recurring and fatal epidemic of infants, desolating many families, especially in the laboring class. Since, as stated above, one of the chief factors in causing this disease is the use of improper food, it is necessary for its successful treatment that the diet be of the right kind, properly prepared, given at proper intervals, and in proper quantity. We cannot expect to prepare any food which will surpass in excellence the mother's milk, if she be in good health, be not over-anxious in regard to her infant, have sufficient sleep, and lead a quiet and regular life. But in a large city many mothers, especially in the laboring class, with their manifold household duties and constant and depressing struggle with poverty, find their milk insufficient, so that some substitute for maternal lactation is required. A wet-nurse may supply the place of the mother, if one can be obtained, who has sufficient milk, of the right age and of good quality, and who has the proper habits and mental traits. In New York city wet-nurses are often employed in wealthy families when the mothers are healthy and have abundant milk, and when their own health and happiness would be promoted by wet-nursing. The plea for the abandonment of the important duty of suckling and taking care of their own infants is that it would necessitate too close confinement at home and deprive them of social plea-

sures, and that the drain upon their systems from lactation would make them prematurely old. To such an extent are wet-nurses employed in wealthy families, that there is a scarcity of them for families who are in urgent need of their services. For the great mass of infants deprived of maternal lactation through their mothers' ill-health or other causes, the supply of wet-nurses is totally inadequate, and in the laboring class, where cases of infantile indigestion and diarrhœa are especially frequent, their employment, on account of the expense involved, is not to be thought of. Therefore, in a large city like New York, artificial feeding is necessary for the vast majority of infants deprived of the breast-milk, and how to feed such infants, as well as those who have reached the age when weaning is proper, is one of the most important problems which can engage the attention of the physician.

We have stated that the food of infants prior to the age of one year should resemble as closely as possible the mother's milk in digestibility and nutritive properties, and for this reason animal milk, and for convenience cow's milk, must constitute the principal part or form the basis of the food employed. The profession, as well as the laity, are greatly indebted to the labors of renowned chemists, from the late Baron Liebig to Professors Leeds and Vaughan of the present time, not to mention names more intimately connected with this journal, for the important aid which they have rendered in the matter of infantile feeding, and largely through their assistance many infants are now preserved in health who a few years ago would inevitably have perished from indigestion, mal-nutrition and diarrhœa. The most important help rendered by the chemists is, we have said, the artificial digestion of the substances used in feeding, by which the feeble digestive functions of infants are relieved to a great extent of the burden of digestion. The importance of this artificial digestion is seen as regards the change effected in milk. A principal reason why cow's milk disagrees with infants is, that its essential and highly-nutritive ingredient, casein, forms large and firm masses in the infant's stomach, curds which digest with difficulty, prove irritating by fermentative changes which they undergo, cause gastric distress and vomiting, and as they descend in the intestines produce colicky pains and diarrhœa. Human milk coagulates in flakes, which on account of their small sizes are readily acted on by the digestive ferments, and are quickly and fully digested. By artificial digestion or, as it is designated, peptonizing, the casein, so far as it is not fully digested, forms particles or flakes which are readily digested by the infant, causing no suffering or gastro-intestinal irritation.

But useful as is the peptonizing process for preparing milk, so that it is readly assimilated while its full nutritive properties are retained, it meets a serious drawback as employed in a large city like New York. Milk of the best quality, that which is most suitable for peptonizing, is obtained at a distance, where the pasturage is good and abundant, and in midsummer, when fermentation occurs quickly, milk several hours old when it is received is likely to have undergone some alteration appreciable to the taste so as to impair its quality when peptonized. This is a fact which we frequently notice in tasting milk.

The important advantage is claimed for one of the most recent of the infant foods, to wit, Carnrick's Soluble Food, that not only are the feeding, healthiness and cleanliness of the cows, which furnish the 50 per cent. of milk which it contains, under close surveillance, but the milk is peptonized in the country soon after the milking, after which its water is expelled by evaporation and its nutritive portion reduced to a powder. Peptonized milk reduced to a powder resists fermentation for a lengthened period, and may be advantageously used in infant feeding months after its preparation as a substitute for fresh milk when the latter is obtained with difficulty. But great as has been the improvement in infant feeding by the peptonizing of milk and the method of preserving it from fermentation by evaporating its aqueous portion, an equally important and useful improvement has been made in the predigestion of the farinaceous foods which are commonly employed with milk. The fact has long been recognized that bland and easily-digested farinaceous substances mixed with milk aid in preventing the casein from forming large and firm masses in the stomach by mechanically separating its particles. The proper admixture of such substances with the milk, therefore, appears to promote the digestion of the latter, while having nutritive properties they aid in the nutrition. But starch is digested with difficulty by young infants. In those under the age of three months, the salivary glands and pancreas, whose secretions are the chief agents in digesting starch, are almost rudimentary. To the late Baron Liebig the credit is due of bringing prominently to the notice of the profession the fact that starch can be predigested, so that it is readily assimilated by the youngest infant. According to the degree of change, starch is converted into the form known as soluble starch into dextrine, and by a more advanced change into glucose.—*Dr. J. Lewis Smith in Journal of Reconstructives.*

CANADA

Medical and Surgical Journal.

MONTREAL, AUGUST, 1887.

PUBLIC HEALTH.

Montreal, in common with many other cities of this continent, suffers from a high death-rate from preventable disease. We have passed through an epidemic of small-pox, and have witnessed a mortality greater than has ever happened in any modern plague. It was hoped that the dreadful lesson thus taught would have the effect of enlivening the people to undertake measures of sanitary reform, but we seem to be drifting back again into the old ways. No Board of Health for the Province has been, as yet, established. Thus Quebec stands alone in its complete disregard for the health of its people. More than a year ago a feeble health bill was passed by the Conservative Government at Quebec for the purpose, not of effecting any sanitary benefit, but *solely* to meet the exigencies of the political situation. To oppose the bill would estrange the English vote, while to put into force good health laws would offend the majority of the government support. So the government took a middle course. The English were pacified by the passage of the most feeble health bill a legislature could devise, a board of health was promised, all particulars arranged, and the bill became law. But the board was never appointed, and the promoters of the bill, those gentlemen who sat out so many dreary meetings in drafting it, have worked in vain. Then came the change of government, and with it some faint hope of improvement. Mr. Mercier was asked in the House by the member for Montreal West whether it was the intention of the government to establish the Provincial Board of Health, as provided for by the bill of last session, on which the Premier replied that the matter was "under the consideration of the government." Since that gracious reply was

made smallpox has again threatened us, diphtheria is prevalent in the province (we read now and again of prayers for the removal of the pestilence), ships with doubtful bills of health slip past our inffectual quarantine stations and pass unobstructed to the harbor of Montreal, no vaccination to speak of is being done, fever is reaping its annual harvest, cholera is threatening us, and yet the " matter is under consideration."

And in the city itself things are almost as bad. It is no exaggeration to say that gross sanitary defects exist in most, nay, in the majority, of our houses. Original bad plumbing, leaking pipes, gaping drain-pipes exist in the houses of rich and poor alike. There is little doubt but that the beneficial effects of change of air are due not so much to the good qualities of the air of the country as to the escape from the poisonous home atmosphere. Most of our houses present many unavoidable faults, it is true ; we cannot carry our drains outside the house nor can ventilation be carried out as satisfacterily as is done in more temperate climates, but we can exercise some care in keeping the drainage system in good order. We can take the trouble to see that the soil-pipe is of proper material and that it does not leak, we can see that it is ventilated, we can get rid of the old offensive pan-closet, and we can do what is possible to keep a fair current of air through the house. In fact we ought to do, before the disease comes, what many of us have to do after the mischief has been accomplished.

Latterly a number of citizens have clubbed together to form a Sanitary Association, following the example of several of the old country towns. By means of an annual subscription of $10 an income has been procured sufficient to enable the Society to secure the services of a competent sanitary engineer, Mr. Henning of Edinburgh. The duties of this officer include annual inspection and report on the condition of the house of each member. In this way defects are detected soon after their development, and the stable-door shut before the horse is stolen. We heartily commend the action of those gentlemen who are responsible for the institution of this society, and advise all householders to become members, reminding them that a healthy mind in a healthy body cannot long remain unless both the mind and body are contained in a healthy home.

THE CONDITIONS UNDER WHICH THE KIDNEYS FUNCTION.

An interesting and important series of experiments has been made by Dr. J. Munk to determine between the rival theories as to the secretion of urine: the filtration theory of Ludwig and the secretion theory of Heidenhain. According to the former, *blood-pressure* determines the rate of secretion; according to the latter, the *rate of flow* of the blood, and the secretion is effected not alone by the Malpighian corpuscles, but also by the cells of the tubules.

Munk carried out his investigations on excised, but living kidneys of dogs, through which defibrinated blood of the same animals was sent under varying pressures and at a temperature of 40°C. The blood of starving animals induced no secretion, while the latter was abundant when normal blood was used; but if to the blood of the famished animals was added one of the final products of digestion as found in the blood, as Munk puts it, such as urea, then secretion followed. As an increase of blood-pressure within the kidneys did not increase the amount of urine, while an augmented rate of flow increased the quantity proportionately, Munk pronounces in favor of the theory of secretion proper as against the mechanical theory.

When only solutions of common salt or blood-serum were passed through the kidney, no secretion followed. As any central influence from the heart or the nervous system was excluded, it is inferred that the unaided activity of the cells alone suffices for the work of secretion. A number of diuretics were employed with a view of testing whether they acted as stimuli centrally on the heart or peripherally on the renal cells. Digitalis proved a central diuretic; common salt a peripheral one. Urea, pilocarpine, saltpetre and caffeïne acted in a similar manner, though less intensely. Pilocarpine, however, when introduced into the blood, increased the rate of flow through the kidney in a degree sufficient of itself to explain the accelerated rate of secretion; on the other hand, strychnine reduced the rate and the secretion in proportion to the diminished speed of blood-flow.

Certain syntheses had also been effected in the kidney; thus

from benzoic acid and glycol in the blood hippuric acid was formed after flowing through the kidneys. This result, however, had been achieved long before. In like manner from phenol and sodium sulphate were produced phenol sulphate. The blood corpuscles were not found essential for effecting these syntheses, though oxygen in the blood was indispensable.

We are inclined to lay some stress on these results, not alone for their inherent worth, but as tending to weaken faith in those mechanical views of physiology which now are somewhat prevalent. In a former number we called attention to Adami's investigations, from which it appeared that rate of flow and not blood-pressure was of the greater importance in determining the work of the Malpighian corpuscles.

ANOTHER CASE OF ACCOUCHEMENT DURING HYPNOTISM.

M. Mesnet recently reported an interesting case to the French Academy of Medicine (*La Semaine Médicale*, 13th July, 1887). The patient was a young primipara, aged 22, from early youth easily hypnotisable. In the early stages of labor she bore her pains very impatiently; but when hypnotised, her sufferings ceased and labor went on without a murmur. She said "she felt the contractions coming, but did not suffer—she felt very well in that state." As the pains intensified she became uneasy, and during the expulsion period seemed to suffer greatly. Her cries, gestures, attitude and movements were the same as if she had been awake and conscious. Labor was normal, lasting six hours; delivery was easy, the uterus contracted well, no hemorrhage. She was wakened up half an hour after the termination of labor, and the disappearance of her abdominal tumor was the first hint she had that her confinement was over. Though she had seemed to feel the last expulsive pains so acutely, she retained no recollection of them whatever, and remembered nothing from the time she was hypnotised. This case affords a new and remarkable illustration of the effect of hypnotism upon the memory. While hypnotised she spoke freely, described her sensations, and during the last hour complained bitterly of pain; yet when awakened she remembered nothing. M. Mesnet says

that troubles of memory invariably occur in the series of hypnotic phenomena, and that consequently grave medico-legal questions might sometimes arise, for under certain circumstances child-substitution at the time of birth might readily be effected without the knowledge of the mother. He thinks that hypnotism can never become a general procedure in the practice of midwifery, for the state of the hypnotic individual is pathological, just as the hysterical or epileptic, and some dynamic functional or organic trouble may always be ascertained.

CANADIAN MEDICAL ASSOCIATION.

The twentieth annual meeting of the Canadian Medical Association, which takes place in Hamilton on the 31st of August and the 1st of September, promises to be one of more than ordinary interest. The following gentlemen will lead the discussions in the various subjects :

Dr. Grasett, Toronto. Surgery—Subject, "Obstructed Urinary Outflow."

Dr. McPhedran, Toronto. Medicine—Subject, " Empyema."

Dr. Eccles, London. Obstetrics—Subject, " Subinvolution of the Uterus."

Dr. Stewart, Montreal. Therapeutics—Subject, " The Present State of Cardiac Therapeutics."

The following papers are promised up to the present time :—

1. Dr. William Osler, Philadelphia—
   " The Cardiac Relations of Chorea."
2. T. Wesley Mills, Montreal—
   " A Physiological Basis for an Improved Cardiac Pathology."
3. Dr. Archibald Malloch, Hamilton—
   " Report on Twenty Cases of Tracheotomy in Diphtheritic Croup."
4. William Gardner, Montreal—
   " A Year's Work in Abdominal Surgery."
5. Dr. Ryerson, Toronto—
   " Thalamic Epilepsy."
6. Dr. F. Buller, Montreal—
   " Headaches in connection with certain Ocular Defects."

7. Dr. Stirling, Montreal—
"A few points in the Etiology and Treatment of Conjunctivitis."
8. Dr. W. H. B. Aikins, Toronto—
"Detection of Typhoid Bacilli in Drinking Water."
9. Dr. R. L. MacDonnell, Montreal—
"Loss of Knee-jerk in Diphtheria."
"Aortic Aneurism—(*a*) Hitherto Unobserved Symptom.
(*b*) The Results of the Treatment by Iodide of Potassium."
10. Dr. J. C. Cameron, Montreal—
"Some Practical Points in Aseptic Midwifery."

AN ABDOMINAL PROTECTOR.—Dr. Codd, Surgeon Infantry School, Winnipeg, has devised what he calls an "abdominal protector," which is especially intended to be worn by mounted men making long journeys during the severe winters experienced in our North-West Territories. It is made of finely dressed lamb or sheepskin, and is to be worn inside the trousers and attached to the body by a waist-belt and thigh straps, being intended to protect the genitals as well as the lower portion of the abdomen. Having been furnished with a cut of the "protector," we feel safe in recommending it, especially to military men, and we have no doubt it will soon receive the attention and approval of the Militia Department.

Correspondence.

EDUCATION AND MEDICAL EDUCATION.

To the Editors of the CANADA MEDICAL AND SURGICAL JOURNAL.

DEAR SIRS,—Many of the questions raised by "Observer" in his letter in your June number deserve serious consideration. Certainly "Observer" finds some high authorities on educational matters sharing his views. Prof. Farlow of Harvard, discussing the mental condition of students when they enter college, found it such that he makes the following strong statement: "The college instructor must still regard the student who studies under him as a *school-boy whose capacity for observing and investigating natural objects has been blinded by a one-sided course of instruction at school.*"

Again, a well-known biologist, Prof. O. C. Whitman, in an address before the American Society of Naturalists, remarks: "Our higher institutions of learning represent the creative and

directive factor; and to them we must look, first of all, for the *supply of competent teachers*, and, in the second place, for the creation of that *healthy public sentiment* which will give support and protection to teachers and school-boards in carrying out desired reforms." (Italics mine.) "Colleges have their indispensable function—to teach elements. *But they can only highly serve us when they aim not to drill, but to create.* Any organization trained to provide merely what the uninstructed public ask for can never fulfil its highest function, which is to *create* and *direct*, not to adapt and conform."

I hope that ere long there may be such a medical school or schools in this country as can and will do this.

In an address delivered in May of the current year before the Anatomical Society, Prof. Humphrey said: "We are met together for the purpose of elevating the science of human anatomy, and placing, or endeavoring to place, the science of human anatomy on a level with, and in its proper relation to, the other branches of natural science, which I think it *has not for some time held, and which relative decadence is greatly to be attributed to the fact that it has not advanced pari passu with them.* Since the time of Hunter and Cruickshank, and Astley-Cooper and the Bells, human anatomy has lacked its proper interest, and has not held its own with the other quickly progressing branches of natural science. Hence it has come to be regarded as a merely practical subject, and its study to be merely a process of piling fact upon fact without due regard to the purport of the facts and the suggestions to which they should give rise." Such utterances from an eminent professor of anatomy of almost fifty years standing should commend themselves to all teachers of this subject; and we must cordially agree with Professor Humphrey when he further states that "one of the greatest, perhaps the greatest, of defects in medical education, I might say in all education more or less, but in medical education especially, is the *heaping upon and oppressing the student's mind with a load of facts which he neither digests nor appropriates, and which he therefore does not retain.*" (Italics mine.)

To accomplish this, in addition to better teaching, there must also be for this and all other subjects a lengthening of the session.

A single month added *at once* would be a great improvement on the present crush and cram, with its consequent reaction and numerous other evils. Certainly, among other improvements, it would be very desirable if that portion of time which a student wastes in gossip and ill-directed or undirected work in the dissecting room could be saved for other subjects which are on short allowance as to practical work. The subject is large and one of vital importance. The views of Professors Farlow, Whitman, Humphrey and of "Observer" appeal to all thoughtful medical men; for it is to the profession as a whole that we must look for that sort of improvement that will be certain and deep, because springing from a profound conviction of its real importance, uninfluenced by any local, temporary or time-serving policy. I write to show that "Observer" is not alone, but in his views has the sympathy of the best thinkers and most successful teachers in all departments. That changes are needed and must come soon is the opinion of

Yours sincerely,

ANOTHER OBSERVER.

Medical Items.

—Mr. Savory has been re-elected for the third time President of the Royal College of Surgeons, England.

—Active steps are being taken to establish a Therapeutical Society in London. Strange that the unwise words of a great man should have been the means whereby this wise suggestion should have its birth. Sir William Gull, at the late meeting of the British Council for Registration, denounced what he was pleased to call the "drug" treatment of disease, and as result we are likely to have a special society from whose work we have no doubt great benefits will come.

—The English committee appointed to investigate into Pasteur's work on the prevention of hydrophobia have reported very favorably. They believe that it is certain that the inoculations prevented the occurrence of hydrophobia in a large proportion of those who underwent the operations. This report is hailed with great rejoicing by the many friends of the distinguished savant. Despite the great names appended to the English report, the question is far from being settled. This settlement can only be arrived at through long-continued and laborious researches.

CANADA

MEDICAL & SURGICAL JOURNAL

SEPTEMBER, 1887.

Original Communications.

ABSTRACT OF A CLINICAL LECTURE ON A CASE OF CIRRHOSIS OF THE LIVER.*

By R. L. MacDonnell, M.D.,

Professor of Hygiene in McGill University; Physician to the Montreal General Hospital.

In the second bed on the left, as you enter No. 11 ward, you will have before this noticed a patient to whom, since his admission, unusual attention has been given, and in whose case we have all taken much interest. You have noticed at first sight the yellow face and jaundiced tinge of the conjunctiva, and perhaps have had occasion to ask the cause of the dark brown color of the urine sample at the head of his bed. He presents the three symptoms of jaundice in a marked degree. Moreover, on counting the pulse-beats, you will find that they are uncommonly slow, taking into consideration the weak condition of the patient. The skin, too, is itchy. Again, you cannot fail to perceive the fact that the abdomen is largely distended, and that both legs are dropsical to an extreme degree. Consider the causes of these three main features of the case—*jaundice, ascites, dropsy of the feet.*

Jaundice you must invariably regard as a symptom, never as a disease. To diagnose a case as jaundice is as inaccurate and insufficient as to mention cough as a cause of illness, or to describe a disease of the organs of locomotion as "lameness."

* Delivered in May, 1887, as one of the ordinary clinical lectures of the summer session.

The theory of jaundice, clinically, is two-fold, viz., obstructive and non-obstructive.

Obstructive.—The bile ducts and the gall-bladder become distended with bile, which is absorbed into the blood by the lymphatics and the veins.

Non-obstructive.—To account for this condition is by no means so easy; various theories having in turn been proposed and in turn rejected, so that were I to attempt to tell you about them here I should soon be lost in the fog of speculative pathology, and the safe and sure path of clinical medicine would with difficulty be regained.

For clinical purposes, the causes of obstructive jaundice may be thus divided:

1. Causes acting from within outwards—gallstones, hydatids, foreign bodies.

2. Condition of the ducts themselves; tumefaction of the duodenum or of lining membrane of the duct; stricture of duct; congenital deficiency; stricture from peri-hepatitis; closure of orifice of duct from ulcer in duodenum; stricture from cicatrization of ulcers; specific stricture.

3. Obstruction from causes without—tumours, enlarged glands, tumour of spleen, tumour of the pancreas, tumour of kidney, omental tumour, abdominal aneurism, accumulation of fæces, uterine and ovarian tumours.

The causes of a non-obstructive jaundice have been thus stated:

1. Poisons in the blood, chloroform and ether, animal poison, specific fevers; cirhosis and other forms of chronic atrophy of the liver.

2. Impaired innervation, mental emotion, concussion.

3. Deficient oxygenation of blood—*e.g.*, pneumonia.

4. Excessive secretion of the bile, more of which is absorbed than can undergo the normal metamorphosis.

Now what we must determine is, which of this long catalogue of ills is the cause of this man's jaundice. We will therefore look carefully into the history of the case. (The history of the case was here read.)*

* See Canada Medical and Surgical Journal, Vol. XV, p. 730.

Now there are many points in the case which direct to a common enough cause, viz., cirrhosis of the liver, nearly all the symptoms of which are plainly present, and which is, in my opinion, the true cause of all we see. The history separates itself into that clinical and practical division observed by Murchison, viz., alcoholic dyspepsia and portal obstruction.

Alcoholic Obstruction.—1. Distinct alcoholic history. 2. The outset was markedly insidious. He cannot definitely make it clear when the disease began—when he first felt that his health was beginning to fail. 3. The early symptoms were morning retching and vomiting, a sinking at the epigastrium, loss of relish for food, furred tongue, bad taste, flatulence, disordered bowels, urine loaded with lithates.

Now, let us consider some of these main causes. There is no evidence of the presence of any of the ordinary causes of non-obstructive jaundice. There was no fever, no blood-poisoning, no injuriously-acting metallic influence was at work. The jaundice came on gradually and slowly, and was first noticed by the patient's friends. He had been at a funeral, when one of his friends, whose mind being wholly unoccupied in the pauses of the dismal ceremony had time to observe the personal defects of his neighbors, whispered to our patient here, "What makes you so yellow?" He felt very uncomfortable at this disquieting question, and on his return home immediately consulted a mirror, with the result that he distinctly perceived that the conjunctiva was yellow, so that the onset could not have been sudden. Nor was there ever any pain in the hepatic region. Now in gall-stone passage there is severe and sudden colic, with tenderness over the fundus of the gall-bladder, rigors, vomiting —all followed in twelve to twenty-four hours by intense jaundice. Could it be due to a malignant tumor obstructing the duct? There was no physical sign of tumor; pain was absent, and in malignant tumor death occurs early. "The very circumstance of jaundice lasting in any case longer than six months would be an argument against its being due to a cancerous tumor." There is a distinct history of dram-drinking carried on persistently and uninterruptedly for many years, and

what is most significant, he drank his spirits raw and habitually on an empty stomach.

Then we arrive at a point in the history of the case where well-marked evidences of structural change are observed.

1. *The size of the liver.*—The liver is enlarged and painless. It measures 9 inches in right mammary line instead of the normal 4½ inches. Such a condition is not uncommonly present in the early stages of cirrhosis, and should the patient live long enough, is followed by diminution; but it must be remembered that all the urgent and dangerous symptoms may present themselves and the patient be carried off long before the liver has time to assume the characteristic shrinkage. Or, again, the condition of cirrhosis may not be alone present. Waxy or fatty deposit may also exist.

2. *The occurrence of ascites.*—This occurs more frequently in cirrhosis than in any other form of liver disease, and is due to obstruction of the portal veins. The peritoneum contains a great deal of fluid, so much that, as you see, it is giving rise to that extreme œdema of the feet by pressing upon the inferior vena cava, and is pressing upon the diaphragm and causing the distress of breathing, the symptom of which the patient makes most complaint. The retarded blood-current gives rise to the enlargement of the superficial abdominal veins.

3. *Hemorrhages* have occurred from the vessels of these mucous membranes in which the portal obstruction has produced engorgement. You remember that the gastric veins terminate in the portal vein. An over-distended circulation in the stomach relieves itself by hæmatemesis, and of this he suffered a severe attack before he came under our notice. Moreover, the intestines suffered in a like manner, and for the first two days of his residence here he passed jet black stools.

4. *Jaundice.*—As a rule, jaundice is a rare symptom of cirrhosis, and when persistent, it may be set down to some complication; but in this case it was not persistent, it has now almost entirely disappeared even from the urine, and he presents at the moment merely the sallow appearance and the venous stigmata which mark the face of the habitual dram-drinker.

These considerations now fairly enable us to arrive at a diagnosis. Now a word as to treatment.

Had we advised the patient in an earlier stage of the disease, we should most probably have been able to considerably lengthen his days. We should, in the first instance, have stopped, once and for all, the liquor supply. I believe that no harm is ever done by cutting off stimulants. Regard a man who is habitually taking too much alcohol, or a man who has been lately drinking hard, as a man who has poisoned himself. So he has; he has taken alcohol instead of chloral, arsenic or prussic acid. This rule I have invariably followed, and no bad results have ever fallen under my notice, in spite of the gloomy predictions of the advocates of the "tapering-off" system.

In addition, we should also have assisted nature in relieving the portal congestion by prescribing saline purges, assisted occasionally by calomel, blue pill or podophyllin, of which, to my way of thinking, the blue pill is by far the most effectual. Patients are prejudiced against the use of blue pill, and much has been said against mercurial purges. Don't believe it. It has never yet fallen to my lot to observe any injurious effect from the use either of blue pill or calomel in digestive disorders.

But now that the disease is in full swing, what has been done? It was thought advisable, owing to the great debility and weak cardiac action, to allow some stimulants, and on account of its diuretic action gin was administered. Purgatives, too, have been given with a view to relieve the congestion of the intestinal circulation. At first a mixture of digitalis and broomtops was taken, but finding that the daily quantity of urine passed remained small (20 ozs.), I put him on the old-fashioned pill of squill, digitalis and blue pill. This producing no better result, we prescribed acetate of potash with infusion of digitalis. It became evident that medicinal diuretics were not of much advantage. The ascites was increasing, the feet and legs were becoming enormously swollen, the infiltration spreading to the scrotum. Accordingly on the 14th of April I aspirated the abdomen, but, unfortunately, some obstruction blocked the flow of serum in the aspirator, and but six ounces were removed. On the following

day we were more successful, and drew off 40 ounces. I did intend to draw off more, but the aspirator having again become blocked, I thought it best to watch the result of a small tapping. You will see by this urine card that what was hoped for did occur. The pressure of fluid removed from the abdomen has allowed the kidneys to act more freely, and for the last week 50 to 60 ounces of urine have been daily passed. You must remember that in tapping in ascites it is by no means necessary to empty the abdomen; relief to pressure is the object sought for, and so far our efforts have been successful.

Prognosis.—No permanent improvement can be expected. The abdomen will most probably fill again, and will have to be tapped repeatedly.*

MYXŒDEMA APPEARING DURING THE COURSE OF CHRONIC TETANY.†

By James Stewart, M.D.,
Professor of Pharmacology and Therapeutics, McGill University.

The patient whom I exhibit this evening has been suffering from chronic tetany for the past seven years. Two years ago I presented him at a meeting of this Society as a case of simple chronic tetany, but since then other symptoms have developed, and to a certain extent have taken the place of the tetanic symptoms. The patient appears now to be in the beginning stages of that remarkable trouble known as myxœdema. His principal complaints at the present time are general weakness, slowness of thought, and a general troublesome numbness. At times he has diarrhœa, but only at long intervals does he suffer from any "spasms" of his hands or feet. During the late American civil war he served as a private soldier through a number of the Virginia campaigns. While in the army he had three attacks of malarial fever, and for eighteen months he suffered from chronic dysentery. He never had either syphilis or rheumatism; never drank to excess; worked at his trade (stonemason) until about

* Aug. 18th, 1887.—I saw the patient on the street a few days ago. He reported himself well and comfortable, though it was evident that the legs were swollen.
R. L. McD.

† Read before the Medico-Chirurgical Society of Montreal.

four years ago, until he was no longer able on account of gradually increasing general weakness and "spasms" (tetany) in the muscles of his hands.

In 1880 the first symptoms of tetany showed themselves, and have continued with great regularity up to within the past year, but since then he has had only three attacks, each lasting not longer than three days, while previously he had attacks of tetanic contraction of his muscles monthly, and they generally lasted from ten to twelve days. The following account of the mode of onset and course of the muscular contractions may be taken as representative of the majority of these attacks: While in his ordinary health, he would notice that he had double vision.; quickly following, there would be stiffness of his thumbs, which became gradually adducted until they were opposed to the base of the first phalanx of the little fingers. No amount of voluntary effort could remove them from this position, neither could they be forcibly extended on account of the severe pain occasioned. At times other muscles were involved tetanically, especially those of the upper arms. When this was the case, the upper arms would be adducted and cross each other in front of the chest. The fingers were also usually adducted and semi-flexed. The muscles of the face also suffered at times, especially those of the upper and lower lips, causing a curious deformity, those of the upper lip being usually drawn to the left, and those of the lower to the right. The muscles of the lower extremities were only occasionally the seat of these spastic contractions (plantar flexion).

The electrical reactions of the nerves during the tetanic period and during his ordinary health were several times taken, and the following may be taken as the usual average result:

	NORMAL PERIOD.	TETANY PERIOD.
Facial, . .	3.0 milliampères.	.25 milliampères.
Radial, . .	5.00	1.00
Median, .	4.25	.50
Ulnar, . .	3·50	.50

Five milliamperes is sufficient to produce tetanic contraction on the shutting of the kathode (K S T E) and on opening the

anode (A O T E). There is no change in the normal formula, the K S Z < A O Z.

The above measurements were taken by Edelmann's galvanometer. There is no marked differences in the two periods to induced current. The following notes were taken two years ago, and represent still his state, with the exceptions to be presently mentioned: The muscles are in a fairly nourished condition. The patellar reflexes are greatly exaggerated during the period of tetany, while after it has passed away it is frequently impossible to produce any contraction of the quadriceps when the patellar tendons are struck. The triceps and biceps reflexes are exaggerated during the tetany period, and absent after the muscles have become normal. No ankle clonus at either period. There is nothing definite to be made out in regard to the superficial and organic reflexes. The tongue is constantly in a raw-looking state. The appetite, however, is usually fair. He is seldom free from diarrhœa, the average number of stools in the twenty-four hours being usually about six; only very seldom is there one stool in the day. The diarrhœa always moderates when the tetany makes its appearance. The abdomen is constantly distended; stools are large, frothy, semi-fluid, and look like pea-soup. The urine is acid, but normal in quantity; specific gravity 1.030; contains great excess of both urea and indican, but is free from albumen and sugar. At times he becomes deeply jaundiced. There is no further evidence, however, physical or subjective, of disease of the liver. The apex of the heart is in the normal position. There is no increase in the cardiac dulness, neither is there any other evidence of cardiac disease. Nothing abnormal in the respiratory system. There is no relative increase in the number of the white-blood cells; the red appear to be normal. There is no enlargement of the spleen.

After coming under observation, the attacks of tetany occurred less frequently and were much shorter in duration than they previously were. This improvement was attributed at the time to the treatment employed (galvanism), but in the light of the subsequent changes, I think that it is more likely due to a more

advanced stage of the trouble, the tetanic symptoms gradually disappearing and giving place to those of myxœdema. Still he is far from free from tetany. The attacks, however, are slight and the intervals prolonged. It was about a year and a half ago that my attention was particularly called to a commencing difficulty in speech which was quite noticeable, and about the same time there was a complaint of numbness all over the body and slowness in his movements. Since I first saw this patient there has been a gradual and marked change in his appearance. His face has become bloated and his lips thick. There is more or less general œdema, more marked in face and hands; no pitting, however, on pressure. The hands are broad and clumsy looking, as generally seen in cases of myxœdema. There is also the supra clavicular swellings and the disappearance of the thyroid gland. When this took place I am unable to say. It may have been absent long before the present symptoms of myxœdema came on. His skin is dry and harsh. There is profound anæmia. Formerly he was much troubled with diarrhœa, but only occasionally for some time past. The urine is free from albumen and sugar; specific gravity 1.020; urea is about normal in quantity. There is no relative increase in the number of white cells. The red appear to be normal. There is no enlargement of the spleen or lymphatic glands. No evidence of any respiratory or cardiac disease. He has always been somewhat pale, but it is only during the past year that the anæmia has become so marked as it is at present. The immobility of the features seen in this disease is here present.

There are many features of interest in this case.

It is the first case recorded, so far as I have been able to find, where idiopathic tetany has been followed or attended by myxœdema. Dr. W. Ord, about a year ago, read the details of a case of myxœdema before the Medical Society of London, where there was persistent contraction of the arms in flexion; but persistent contraction is not tetany, the contractures in this disease being essentially intermittent. Where the thyroid has been removed from animals, tremors and contractures set in, provided the animal operated on lives two or three weeks, and

symptoms closely resembling myxœdema set in later; the muscular tremor and contracture being an early stage, while the myxœdematous symptoms appear later and belong to the second stage. The case reported is very like those cases operated on by Horsley on monkeys, with this exception: that here the course has been years in place of months. We have first tetany of several years standing, gradually getting less, but still not disappearing, followed by the symptoms of myxœdema. Horsley was able to keep monkeys alive for some time by keeping them at a temperature of 105°. When they lived for several months the myxœdematous symptoms disappeared and were replaced by general atrophy.

Myxœdema may be (1) idiopathic, (2) surgical, and (3) experimental.

Tetany may be idiopathic and surgical, but it is doubtful where there is a true experimental tetany.

That there is a very close and intimate connection between atrophy or removal of the thyroid and these two diseases is undoubted. Nearly all animals from whom the gland is removed suffer from either the one or the other, and occasionally people from whom the gland has been excised for goitre or other formation suffer subsequently from either tetany or myxœdema.

It has been asserted very recently by more than one great observer that myxœdema is essentially due to loss of the thyroid gland, and starting with this assumption as an ascertained fact, the functions of the gland have been determined without any trouble—that is, that its great function is to prevent mucin from accumulating in the tissues; that its removal or atrophy causes mucin to accumlate in the subcutaneous and other tissues, and all the symptoms of myxœdema are attributed to this accumulation of mucin. If the functions of the thyroid are such, why, then, does not its removal always entail the same results? It is only in a small percentage of cases that myxœdema follows even the complete removal of the gland. In about forty complete removals performed by Billroth, myxœdema or the cachexia strumipriva of the Germans was never once observed; and many other surgeons have had a proportionate similar experience. If

the thyroid has such all important influences over metabolism as is alleged, then its removal while still functionally active should always bring about like results. The occurrence of myxœdema in old people in whom the gland has ceased to perform any work is another strong reason why we should not accept the statement so freely made now-a-days that the essential cause of myxœdema is removal or atrophy of the thyroid gland.

Operative or experimental myxœdema is much more likely due to injury of the sympathetic nerves in the neck, while the idiopathic form is in all probability also of a nervous origin, whether central or peripheral we have not sufficient data to come to a conclusion; even taking the neurotic view of the origin of the disease, it is difficult to explain satisfactorily all the symptoms.

ACUTE TRAUMATIC TETANUS—RECOVERY.

By Norreys Worthington, M.D., Sherbrooke, P.Q.

On the night of the 24th May I was sent for to see M. M, aged 11 years, living seven miles from town. She first complained of not feeling well on the 23rd, and on the 24th had considerable pain in her back and right side, paroxysmal in character, and which towards evening grew worse, severer in character, and with shorter intervals of ease. When I saw her she was lying on her side in bed, the head thrown back, muscles of neck and back contracted and rigid, jaws locked, so that she could not put out her tongue, muscles of the abdomen hard as a board, spoke with great difficulty, and any attempt at swallowing brought on a paroxysm, during which the opisthotonos was more marked, the head being jerked violently backwards, and the flexors of the limbs rigid and contracted, with the exception of those of the wrists. There was also considerable fever and increase in rate of pulse.

Upon inquiry I found that some two weeks before, a small splinter of wood had entered her left foot at the junction of the tarsal with the metatarsal bone of the big toe; her father extracted this, the wound healed without any trouble, and the whole affair had been forgotten.

I gave her some chloral hydrat. and bromide of potassium,

but having no means of weighing the doses, and wishing to be on the safe side, am afraid the quantity was rather small, about 3 grs. of chloral with 6 grs. of bromide every two hours, alternated with a mixture containing one drop of Tr. Aconite (Fleming's) and two drops of Liq. Opii Sedat., and all the milk, beef tea, etc., she could take. On the morning of the 25th I again saw my patient in consultation with my father, Dr. E. D. Worthington, and found she had not changed much; the spasms were, if anything, more severe and frequent. We then gave her 6 grs. of chloral with 12 grs. of bromide in a tablespoonful of water every two hours, to be followed, in one hour after each dose of the above, by a quarter of a grain of the Ext. Cannabis Ind. The doses to be given at shorter intervals if necessary. So great was the difficulty of administering medicine by the mouth that it frequently took as much as ten minutes to get down the tablespoonful of the first solution, even though the little sufferer showed the greatest bravery in doing her share in the treatment. It may be mentioned here that attempts to administer per rectum caused even more suffering to the patient than the slow administration by the mouth, and as this royal road was faithful to its trust, hypodermic medication was held in reserve.

May 26th.—Patient about the same. She had slept well at intervals during the night. There is a suspicion that perhaps the jaws are less rigid and the spasms less severe and frequent, though continuing even during sleep. The slightest touch or noise induces spasm, with a shriek, and opisthotonos. This is her routine state: a few minutes after taking the chloral she drops into a quiet sleep, awakening about the time for the Cannabis Indica, and the spasms getting severe just before time for the chloral again, there being in the intervals of sleep slight spasms every five minutes or thereabouts. Takes beef-tea, milk and egg beaten together, through a tube, in considerable quantity, but with great difficulty. Nourishment is ready for her the instant she awakes.

27th.—Patient not so well; spasms more severe and frequent; opisthotonos much more marked; jaws very rigid; tongue bitten during spasms. Increased the dose of chloral to 10 grs. and

bromide to 15 grs. As the bowels had not been moved since the 23rd, gave two drops of croton oil rather unwillingly; good evacuations. Increased difficulty in swallowing medicine and food. Sleeps soundly at short intervals.

Afternoon of 28th and forenoon of 29th the spasms increased in severity and frequency, the paroxysms having only one minute and sometimes only an interval of a few seconds between them.

30*th*.—About one o'clock in the morning the little patient dropped into a quiet sleep, which continued, with a few interruptions, until about nine, when the spasms returned with equal severity. I saw her in the afternoon, and during the period of my visit of half an hour she slept soundly and had no spasms whatever. Evening of same day very quiet, very weak, and inclined to sleep. Pulse 100 (it had never been more than 100), and, with the exception of the first day, the temperature was but little above normal.

31*st*.—Patient slept well during the night, but for an hour in the forenoon and again in the afternoon had very severe spasms, with complete opisthotonos. At each accession had an extra dose of chloral. Slept well during the night.

For the next few days she remained much the same, complaining bitterly that the medicine burned her tongue where it had been bitten, but still preferring this to any other mode of administration.

June 2*nd*.—Gave croton oil again with satisfactory results. Continued the chloral and bromide, with the Cannabis Indica, without any interruption or modification.

June 6*th*.—Symptoms gradually improving; spasms less severe; jaws less rigid, but it is imprudent to make a remark or any noise in the room. On this day as I was leaving I ventured to say to her, she looked so very comfortable, "Good bye," when she immediately went into a terrific well-marked tetanic spasm, as severe as any she had had.

Towards the end of June she was able to sit up, but moved her legs with great difficulty.

During her illness I had procured some Curara and Ext. Calabar Bean, but determined to let well alone and trust mainly

to the chloral; and to the chloral alone, in my opinion, is entitled the marked influence in controlling tetanic spasm and producing sleep.

EMBRYOTOMY AT EIGHTEENTH WEEK OF PREGNANCY.

By T. Johnson Alloway, M.D.,
Gynæcologist, Montreal Dispensary; Assistant Surgeon, Montreal General Hospital.

The following case is somewhat unique, and exemplifies what the uterus will bear without retaliation, when judiciously treated:

E. P., aged 38; married fourteen years. Five children at full term; one miscarriage. She does not nurse her children. Her youngest child is eight months old, and since its birth she did not menstruate before becoming again pregnant. It has therefore been difficult to arrive at the exact date when the present impregnation took place.

Five weeks, however, before the performance of the operation to be presently described she had a uterine hemorrhage, rather profuse, and accompanied with some hypogastric pain. On examination at this time I found the os closed and the uterus enlarged to probably the size of one at three months gestation. It was freely moveable, somewhat retroverted, low in the pelvis, and parts free from tenderness. I confined the patient to bed and gave her no medicine. There was no hemorrhage on the next day, and after a week's rest she left her bed and resumed household duties as usual. She remained well only for the following few days, when hemorrhage again took place. Still the os remained closed, and I felt convinced, from the size of the uterus, judged after a careful bimanual examination, that no part of its contents had escaped, and that interference under such circumstances would not be justifiable. Had I any evidence of escape of the embryo the course to pursue would have been clear and simple,—clean out the uterus with curette and decidual forceps. Under the existing circumstances, however, I had nothing for it but to order the patient back to rest in bed and await developments. Three weeks after this I was asked to see this lady again. She had some hypogastric

pain. She stated that the hemorrhage did not completely cease since my last visit; that the discharge was more fœtid, and that she had a severe chill that morning, lasting half an hour, which she attributed to having taken cold. Her temperature and pulse were slightly affected. She had a pinched, irritable cast of features, and I felt the full force of her impending dangerous condition. I arranged to return that afternoon with assistants and remove the contents of the uterus.

Under ether and in Sims' position I drew down the uterus as far as possible and began rapid dilatation with Sims' and Goodell's heavy steel dilators until the extreme limit of the latter was attained (1½ inches). With the forceps the amniotic sac was opened and the fluid allowed to escape. One of the legs of the embryo was next seized and brought out through the cervix. I here thought to continue the delivery by Barnes' method after version, but unfortunately, the part gave way at the hip-joint. The next part seized was the thorax by the ribs and sternum, which latter came away with some of the costals attached. Next came the other leg, which also disarticulated at the hip-joint; then an arm was removed with scapula and part of some of the ribs. The ribs were very troublesome, as they had to be removed in small fragments, and there appeared to be no end of them. Next the other arm, and by this time the cervix had very considerably contracted, so that I had to again forcibly dilate with the Goodell instrument. The next part seized was the palate and frontal bones, which allowed the brain matter to escape; then the lower jaw and base of cranium. The parietal bones were removed separately, as they had in some way become detached from the other bones of the cranium. The last part to be removed was the vertebral column, with part of ribs attached. This was probably the most tedious extraction, as it was with some difficulty that the cervical end was drawn into the bite of the forceps. The decidual remains were then carefully curetted from the wall of the uterus, and the cavity well irrigated with 1–4000 solution of sublimate.

During the extraction Dr. Arthur Browne compressed the uterus with his left hand and kept the organ well down in the

pelvis. From time to time he would warn me when any particular part of the uterine wall appeared to be dangerously thin between his hand and my instrument. This point rendered in assistance is very necessary and valuable.

The convalescence of this patient has been very satisfactory. She continued to improve from the day following the operation, and was up and about quite well on the tenth day afterwards.

The moral in connection with this case is important, and we may well ask ourselves the question, Have our predecessors been correct in leaving, and are we justified now in leaving, such cases *to nature?* I think the strongest evidence against such a course is the fact that nature utterly fails in her endeavor to complete the cycle of pregnancy, and that she calls upon art to come to her rescue as a drowning person would to an approaching life-boat. And it appears to me to be as reprehensible for us to stand by inactive, as it would be for the life-saving crew to do likewise in the case of the drowning being; it is indecision and cowardice in both cases, no matter how we view it. I do not mean by this illustration that every physician should be a whole life-saving crew in himself, but that he should not waste valuable time in fruitless consultations in the interest of moral support. Upon rare occasions these patients escape scott-free, as good swimmers do when in peril, but the majority of them, if they do not die outright, become so damaged in health after months of protracted illness, that they pass into a life of suffering and chronic invalidism.

CASES IN PRACTICE.

By J. M. Elder, B.A., M.D., C.M., Huntingdon, Que.

Case I.—*Pyothorax; Paracentesis; Recovery.*—N. R., aged 8, French-Canadian, with good family history. Saw patient first on April 6. *History*—Always healthy until two weeks ago, when he had a rigor, followed by high fever, dyspnœa and cough. A medical man was called in, who told the parents that the boy had "inflammation," and as he was costive, they concluded he had "inflammation of the bowels," and treated him with castor oil and abdominal cataplasms! The pain left him and he was

pronounced cured a week ago. I found the lad propped up in bed; anxious, hectic countenance; rapid (40), shallow respirations; pulse small and wiry (160); temperature 103°; no appetite, with hard, dry, painful cough; no expectoration.

Examination showed left side absolutely dull below third costal cartilage, with absence of respiratory murmur and fremitus over dull area; above level of third cartilage, a peculiar, high-pitched metallic note, which alternates with dull note on change of posture. No succussion. Intensified breath sounds over right lung. Left side measures one inch more than right. Had a slight rigor while examining him. Introduced hypodermic needle into seventh intercostal space in posterior axillary line, and withdrew syringe-full of creamy, laudable pus. Could not get parents' consent to make incision and drain pleural cavity, so unwillingly promised to aspirate, which I did on the following day, using Dieulafoy's useful little instrument. From eighth interspace in posterior line I withdrew four ounces of thick pus, not fetid. *En passant*, I always use a broad bandage around chest when aspirating, so that I can compress the chest as fluid escapes, and I have never been troubled with that annoying coughing and tendency to syncope which so often complicates these little operations. Another point in aspirating, often overlooked by beginners, is failure to turn off the exhaust before withdrawing the needle, thereby aspirating fluid into the intercostal tissues, and causing abscess of site puncture.

Put patient on Syr. Fer. Iod., good diet, and an additional mixture of Pot. Chlor., Tr. Fer. Mur., and Acid. Sulphurous, which I am very fond of in cases of septic fever. Next day I found him improved (respirations 36, temperature 101½°, and pulse 100), but on next day again much worse, so I again tried "moral suasion" with parents, but without success, and aspirated again, with a temperature of 103½°. Removed six ounces of pus, with evident relief to patient. For twelve days subsequent to this the history of the case is much the same—that of septicæmia. Recurrent rigors, night sweats, fever and serous diarrhœa, with rapid emaciation, in spite of symptomatic treatment. Aspirated twice in the interval, and noticed pus getting fetid.

On the 20th, at spot where last aspirated, a small tumor had appeared, and patient feels better since noticing it. I made a free incision into the tumor, and let out two pints of fetid pus; put in tube, and dressed with dry sublimated dressings. Patient made a rapid recovery, and is to-day as well as ever, with no retraction of side.

The lesson from this case is that aspiration in empyema is merely palliative treatment, and, at best, only keeps disease where it is; but, contra, it may be useful in cases of cachexia, or (as in this case) where no more radical operation will be permitted. The case forcibly recalled to my mind an expression of Clifford Allbutt's: "If pus or septic material be present in the body, one must not rest until it is removed. I therefore dislike and reprobate all tampering with an empyema."

CASE II.—*Aneurism of Abdominal Aorta.*—About a year ago I was called to see a patient at some distance, and found a middle-aged, anæmic man suffering excruciating colicky pain. A hypodermic relieved him somewhat, and he soon after vomited, when he became perfectly easy. I then found out that for six months he had been treated for "dyspepsia," and lately his physician had suspected "cancer of the stomach." He would starve himself as long as possible, knowing well that when he did eat he would be tortured until his stomach was again empty. He was very weak and much emaciated. Examination showed a pulsating tumor, easily grasped through the flaccid abdominal parietes, and feeling as large as a man's fist. It was situated in the median line, midway between umbilicus and ensiform cartilage. It felt hard and uncompressible, and had a very distinct systolic bruit. I told him that he had aneurism, warned him of his danger, and enjoined strict rest in bed, with dorsal decubitus. His feet were very cold and bloodless, and I could not count the pulse in the tibial artery. I gave a very guarded prognosis, as the man's habits had not been strictly temperate. I put him on Pot. Iod. gr. v, t.i.d., gradually increasing to gr. xii; ordered a liquid diet, *to be taken in small quantities and often*, so that it might escape easily from the stomach. His

colicky attacks I presumed to be due to pressure of the tumor on the third part of the duodenum, thus forcing its contents back on the stomach. The only solid food allowed was half a dry soda biscuit at a time. This mode of feeding "acted like a charm"; he did not have another attack of his old pain, and his health and strength gradually improved. I saw him at intervals during two months, and found the size of the tumor slowly decreasing, with rapid diminution of the pulsation and bruit. I allowed him to sit up then, and shortly after to walk about a little, cautioning him against any straining effort. I saw him again this spring, and scarcely recognized the hearty-looking man. The tumor had gone down to a comparatively small hard nodule, his feet and legs felt warm, and he was so well that he wanted to know if he could go to work again. I allowed him to do so, and have just seen him again after doing his haying and harvesting, none the worse for his work. I attribute his cure principally to the faithful observance of the condition of rest, though I do not despise the possible influence of the iodide. The sad fate of a neighbor, who had also been under my care for aneurism of the arch of the aorta, but who had fallen down dead while attempting to lift a bag of potatoes, though warned of the danger, no doubt had a salutary effect on this patient, as it enforced the lesson of rest in a way that no cautions of mine would probably have done.

REPORT ON PHARMACOLOGY AND THERAPEUTICS.

By James Stewart, M.D.,
Professor of Pharmacology and Therapeutics, McGill University.

THE TREATMENT OF CHOLERA.

In the *Journal of the American Medical Association* for July 30th there is an abstract of a lecture on Cholera and its Treatment by Prof. Ziemssen of Munich. Ziemssen bases his therapeutic procedure on the now generally accepted view that cholera is due to a specific mycotic process in the mucous membrane of the small intestines, that the great serous transudation into the intestinal canal is due to the exuberant culture of the comma bacillus, and that a poison arises from this culture which

profoundly affects the whole organism. The above being accepted as the true origin and course of the disease, Ziemssen concludes that the indications to be fulfilled are (1) antagonizing the culture of the bacillus in the intestines, (2) the use of measures which prevent the blood thickening reaching an extreme degree, and (3) the employment of means which counteract the poisonous influence of the absorbed products from the intestines.

Naturally, the sooner the treatment is commenced the better. As cholera has an incubation period lasting from twelve hours to five days, it is during this period that it is specially important that the first indication should be endeavored to be fulfilled. So long as the initial symptoms are simply diarrhœa we may hope to exert a destructive action on the rapidly-growing bacillus. If, however, vomiting is present, our prospects of being able to carry this out are small indeed. In the prodromal stage, Ziemssen considers that there is no drug to be compared with calomel. He begins the treatment by giving it in two or three doses of eight grains, and follows these large doses by small ones ($\frac{3}{4}$ gr.) every two hours.

There is a general consensus of opinion that calomel can do no harm in inflammatory conditions of the intestines, and as it has been proved that a small portion of it is changed into sublimate in the intestines, we can readily understand its antimycotic action. There must, however, be an additional action obtained from calomel in these cases, for we know that sublimate is not nearly so efficacious.

Rossbach recommends naphthalin made into pills with keratin. Ziemssen is not favorable to the use of opium. Long and bitter have been the disputes during the past fifty years over the comparative usefulness of calomel as compared with opium in cholera. During the prodromal stage, where there is restlessness, no doubt the hypodermic use of morphia will be beneficial, but there is nothing directly curative in this action. During the algid stage, the use of this drug in any form is not free from danger. As cholera in its incipient stage is only distinguished from simple catarrhal diarrhœa by finding the comma bacillus in the discharges, the safest plan is to treat all cases of this character in

the same way. Ziemssen strongly recommends rest in bed and that particular attention should be paid to the diet. For food and drink, only oat and barley water should be given. Where there is vomiting, ice with morphine subcutaneously. When the cold stage is reached, the method recommended and so successfully practiced by Cantani should, according to Ziemssen, be at once resorted to. This consists in the injection of a large quantity of fluid into the intestines and into the cellular tissue. The term enteroclysis is used to denote the former, and hypodermoclysis the latter. Enteroclysis is made with one to two litres of a one per cent. solution of tannin at a temperature of 39°C. or or 40°C. several times a day. It is contended for this solution that it acts by stimulating absorption and thus preventing anuria and that extreme degree of thickening of the blood which is the principal cause of death in cholera cases. It is considered also, that the tannin limits the transudation from the mucous membrane by its astringent action on the blood-vessels. Cantani maintains that the injection passes into the small intestines and sometimes even into the stomach. He alleges that he has removed it from the stomach by means of the stomach pump. The purposes of hypodermoclysis is to make up for the great loss of water and salts from the blood. The following is the solution used for this end : Sodium Chloride, 4.00 ; Sodium Carbonate, 3.00 ; Water, 1000.00. From one to one and a half litres of this solution at a temperature of 38° to 40° are injected every three or four hours. Ziemssen recommends a syringe of a capacity of about an ounce and a half, and he has found that a litre injected into two or three places can be dissipated in a quarter of an hour. The practice of massage greatly favors absorption. Frequently, even after one injection, there is marked change in the condition of the patient for the better. The extremities become warmer ; the pulse and respiration improve ; the cyanosis and anuria disappear. Keppler of Venice recommends the addition of a small quantity of alcohol to the solution, in the proportion of 10 to 1000. The alcohol acts as a cardiac stimulant. Camphor, however, is probably just as efficient for this purpose as alcohol. It should be employed hypodermically.

It is important to be exceedingly careful in laying down dietetic rules for the patient's guidance for weeks after his recovery, but there is nothing special in these directions.

Although there is at present little prospect of this country being invaded by this dread scourge, it is, however, very necessary that all practitioners should be thoroughly acquainted with those means that have lately been found most efficient in combating its deadly course. There is no doubt whatever that many cases of cholera have been saved by the treatment which Ziemssen so highly recommends, and the leading points of which we have sketched.

Cases of cholera morbus occur in this country frequently during the summer months of such great severity that place life in imminent danger. Here would it not be well to employ hypodermoclysis. The terrible drain that occurs in these cases must have a very serious effect, especially in broken down constitutions. As this procedure is free from danger, it certainly would at least prevent a very retarded convalescence. A modified hypodermoclysis might, we think, be an efficient means of relief in cases of true cholera infantum. The procedure is certainly worthy a fair trial. It is to be recommended as safer and more efficient than the old method of transfusion with saline solutions or milk.

ANTIFEBRIN IN THE FEBRILE DISEASES OF CHILDREN.

Widoritz, assistant in the Children's Hospital in Vienna, gives an account of the experience gained in that institution of the action of antifebrin in a large number of the ordinary febrile diseases of childhood. In all, fifty-three cases were treated; these included scarlet fever, measles, pneumonia, tuberculosis, bronchitis and facial erysipelas. The dose varied according to the age of the child from 0.1 to 0.3 (1½ to 4 gr.). Invariably there was marked fall in the temperature in from ten to twenty minutes after the administration of the drug. The quickness of the fall depended more on the individuality of the patient and the disease than on the amount of the dose. The temperature of scarlet fever was less influenced than that of any

other diseases mentioned above. Simultaneous with the fall of temperature, there was a fall in the pulse-rate, but not always to the same degree. In only three cases was there observed any untoward effects from the antifebrin, in the form of slight and quickly disappearing cyanosis. In not a single instance was the course of the disease influenced. The author, however, says that there was a distinct improvement in the general well-being of the patients who received antifebrin.

From the experience accumulated up to the present, we have no grounds for hoping that the use of antifebrine or any of the other lately-introduced agents of this class do any good in febrile disorders. Much is said and written about their usefulness in cases of hyperpyrexia, and that their use should be reserved for this condition. It is, however, here where they fail to have any decided effect on the temperature. After all, the occurrence of true hyperpyrexia is an extremely rare condition in any disease of childhood, especially so among the list of those treated by Widoritz.

ANTIPYRIN AS A SEDATIVE.

Prof. Germain Sée, to whom we are indebted for our knowledge of the analgesic properties of antipyrin and allied substances, recommends the hypodermic injection of this drug in preference to its internal administration when used for the relief of pain. He advises it to be given in doses of half a gramme (8 grains) in the same quantity of water. For the relief of acute pain its action is nearly as prompt as morphia. It is free from the marked untoward effects so frequently seen following morphia. It causes neither vertigo, headache, constipation or vomiting; neither does it give rise to the somnolence and artificial stimulation of the latter.

Professor Sée claims for it a curative action in cases of pain of an essential nature. Time alone will decide whether these claims are extravagant or not.

IODOL, AN EFFECTIVE SUBSTITUTE FOR IODOFORM.

Dr. Norris Wolfenden describes (*Practitioner*) and highly recommends iodol as an efficient substitute for iodoform. This agent

appears to be as effective as iodoform, at least for all the external purposes of the latter. It has the great advantage, however, of being entirely odorless. It is only slightly soluble in water, but freely so in ether. It contains 88.9 parts of iodine, while iodoform contains 96.7. It liberates its iodine when brought into contact with any of the secretions much more readily than iodoform. This property may be taken as proof that it will seldom fail to act as an antiseptic. No doubt the sometimes alleged failure of iodoform is due to its not parting with its iodine.

Dr. Wolfenden has found iodol very beneficial in tuberculous ulcerations of the larynx. He uses it in the form of the pure powder once daily. Under this treatment the ulcers have healed. It has been found to remarkably diminish the cough and difficulty of swallowing present in cases of laryngeal phthisis. In the atrophic catarrhs of the naso-pharynx it acts pleasantly and effectively. It can be used either in the form of the powder or dissolved in ether or alcohol. Having no toxic properties, it can be used freely over an ulcerated surface.

THE UNTOWARD EFFECTS OF COCAINE.

Recently renewed attention has been directed to the severe nervous symptoms which frequently attend the prolonged use of cocaine. Dr. Heimann, in the August number of the *Journal of Mental Science*, gives a very full account of the peculiar hallucinations caused by the excessive use of this drug. One of the first symptoms to be complained of is itching of the skin, which suggests to the patient the presence of vermin ; failing to discover any, these patients think the itching is caused either by some invisible power or minute organisms which bore their way in and out through the skin. Often large insects were reported as having been seen making their way through the skin. Dr. Heimann mentions two cases, both medical men, where insects were seen under the microscope (microscopic visual hallucinations). The hallucinations of hearing would also make their appearance. Hallucinations of taste and smell are also not infrequent. At this stage the idea of persecution takes hold of the patient's mind, and may assume such a degree as to being

dangerous. The condition at times develops into acute mania. These patients have an inordinate opinion of their own importance. Heimann relates the case of another medical man who, on account of his violence, had to be isolated, and he construed this separation into a request, that he was required to work out a new cellular pathology.

If the drug has been used in large doses for a long time, recovery is very slow, and may be very imperfect. The disease being a recent one, it is difficult to say that any cases are incurable. Heimann, in a number of cases, has found that there is damage in the spheres of sensation and volition. "The patients lie when they open their mouths, they steal on the first opportunity, and they desire to do that which they are unable to perform. They are irresolute in their action, and should they have begun anything, their activity is of the shortest duration. In their being they become apathetic, indifferent to everything, untidy in their belongings, unclean in their person—in short, they are demoralized."

In the treatment of cocaine mania, it is recommended to withdraw the drug gradually, while others advise that this should be done at once. It is doubtful whether the usefulness of this agent, when given internally, will not be more than counterbalanced by its deleterious influences.

Hospital Reports.

MEDICAL AND SURGICAL CASES OCCURRING IN THE PRACTICE OF THE MONTREAL GENERAL HOSPITAL.

CONDENSED REPORTS OF CASES IN DR. MACDONNELL'S WARDS.

CASE I.

Empyema with a Thoracic Sinus—Resection of Ribs—Death—The sinus is found to communicate with an abscess in the liver.

Of all diseases, empyema is the one over which most errors of diagnosis are made. Essentially chronic in its course, obscure in origin, and deep-seated, it manages to deceive the physician at every turn, to accumulate pus in out of the way places, and to discharge it where least expected.

A cabman, aged 38, came to ward 11 on the 20th June, 1887, complaining of cough and emaciation. On examination of the chest, no definite physical signs were at first made out, beyond that the liver margin extended an inch below the edge of the chest wall. The breathing was hurried and exaggerated, and there were some bubbling râles, but at the first no dulness was noticed. The patient's general appearance was rather more indicative of long-standing abdominal disease. He was of yellow complexion, anxious, careworn expression, and very thin. The previous history was most obscure, the statements made being repeatedly contradicted. All we could arrive at was that the patient had been ill for two years, and that at some time an abscess had projected from the chest-wall near the lower end of the sternum, that a surgeon had opened it and permitted the escape of a large quantity of pus. There was a flat ulcer just above the ensiform appendix which had irregular undermined edges, with a general appearance suggestive of a syphilitic ulcer, but the discharge was greater than would be met with in the case of an ulcer. Moreover, this outflow was slightly, but perceptibly, increased when the erect posture was assumed. Dr. Roddick, of whose advice I availed myself, succeeded in passing a probe directly inwards about three inches, the sinus seeming to pass in the direction of the base of the left lung. Further examinations revealed the presence of dulness on percussion and very weak breathing at the left base from the level of a point two inches below the angle of the scapula. The temperature had now assumed a type distinctly septic, and the condition of the patient became one of danger. An exploratory puncture with a small trocar attached to a syringe demonstrated the existence of foul-smelling pus in the left pleura. Accordingly the patient was transferred to the surgical wards and a portion of the rib excised, allowing the escape of a small quantity of foul-smelling pus. For some days after this operation the patient's condition improved, the temperature at night fell, and all things seemed favorable. In about a fortnight, however, the temperature again assumed its former character, and the patient gradually sank.

Post-mortem report by Dr. Wyatt Johnston.—Body not much

emaciated. A small opening above xiphoid, in the mid-sternal line, into which a probe can be passed with difficulty in a direction inwards and downwards. In left side is an opening made in the thorax, the seventh and eighth ribs being cut through; the parts are covered with granulations, on which, however, no tubercle can be seen. In abdomen, just beneath xiphoid, there are local adhesions between the anterior wall and the liver, in a line with the sinus mentioned above. On opening thorax, lungs do not collapse from adhesions. Pericardium and heart normal. Left pleura thickened, closely adherent throughout, except near the opening of the incision, where there is a cavity about the size of a tea-cup, which appears to be closing up well; the granulations do not seem to be tubercular. The lung itself is crepitant everywhere, and contains numerous miliary tubercles. The right lung also contains miliary tubercles, and is somewhat emphysematous. On examining the track of the sinus, it is found not to pass near the empyema, with which it has no communication, but into the upper part of the liver, thence to the left side of the right lobe. Beneath the peritoneum, and adherent to the diaphragm, is a large, soft, white caseous mass, about the size of both fists, composed of innumerable small, softening tubercles, which are becoming confluent. It reaches to the immediate neighborhood of inferior cava. Other organs show nothing special.

CASE II.

Bright's Disease with Uræmic symptoms of great severity—Recovery—Disappearance of albumen from the urine.

W. S., aged 17, admitted June 3rd, complaining of swelling of the legs, feet, face and eyelids and of very severe frontal headache. On the 25th of May the present illness began with rapid swelling of the feet, soon reaching to the knees. On the 29th May had two convulsive seizures, with loss of consciousness, and on recovery, noticed for the first time that his face was swollen. On the following day both eyes were completely closed by the puffy lids. Severe headache and dizziness then set in. At the age of five the patient had had a severe attack of scarlet

fever, and remembers having had "fits" at or about the same time.

On admission, there was extreme general œdema, the eyelids being greatly swollen and the skin of the face red and somewhat scaly. Pulse 65, full resisting, dicrotic, as shown by sphygmographic tracing. Temperature normal. The cardiac area of dulness is increased, the pulmonary second sound accentuated, but there is no murmur. There are a few bubbling râles at both the pulmonary bases. There has never been any vomiting nor any hemorrhages. Urine: specific gravity 1010, acid; 44 ounces passed in the first twenty-four hours in hospital, 132 grains of urea per diem; about 20 per cent of albumen; slight mucous deposit. Microscopically there were found granular and epithelial casts. Micturition frequent.

The treatment consisted of daily hot-air baths, free purgation with compound jalap powder, and the administration of iron. He was discharged on June 28th. All the œdema had gradually disappeared; the albumen became less daily until none could be found. The urea did not increase, but remained at a low figure np to the time of his departure.

MONTREAL GENERAL HOSPITAL AND MONTREAL DISPENSARY.

GYNÆCOLOGICAL CASES UNDER CARE OF DR. ALLOWAY.

CASE I.—*Large Uterine Myoma.*—A. B., aged 42, married fourteen years; six children, youngest 4 years old. Menstruation quite regular, occurring every four weeks and lasting four days; quantity very large, flowing rapidly, and in large clots. Profuse watery discharges between periods during last six months. No odor. There is no pain in sides, back or hypogastrium. No headache. In fact, feels in goood health, with the exception of slight dyspnœa and general debility. Has noticed since May 1885 an abdominal enlargement, which has continued to increase up to present time.

Examination.—Tumor apparently occupies the whole of abdomen. Uterus is as large as at full term pregnancy, reaching close to the ensiform cartilage. Solid note throughout from

pubis to above-named point. Tympanitic note in flanks. Tumor dense on palpation, and freely moveable; not nodular in any part of surface; does not contract or relax alternately, but an impulse pulsation is conveyed to the hand. On auscultation, a loud bruit is heard on both sides of tumor in flanks. This is synchronous with patient's pulse and with the impulse before mentioned; changes its intensity with pressure upon tumor. Per vaginam, cervix high up above pubis; Jenk's sound passed to the handle without reaching fundus, followed by a discharge of odorless watery fluid.

Diagnosis—Interstitial Myoma.

Preparatory Treatment—Low diet; saline cathartics; arsenic with nux vomica.

The subject of the above case is a very large woman, weighing over 200 pounds. She states that she has no pain nor inconvenience beyond slight dyspnæa when walking and a feeling of general debility. She is pale, however, and has the cachexia of other women suffering under a similar condition. The most interesting point in connection with the case consists in the very loud bruit heard at the lowest part of the tumor on each side. This bruit was more pronounced and louder than I have ever heard even at an advanced stage of pregnancy. It was particularly loud on the left side, but gradually diminished as the stethescope approached the middle line of abdomen. When firm and increasing pressure was made upon the summit of the tumor, the bruit became less and less distinct until it seemed as if it could be altogether extinguished if pressure had been used of sufficient force. From this it would seem as if the phenomenon was due to pressure on the large artery trunks, probably the aorta or common iliacs, more probably the latter, and in this way account for the large difference in note-pitch and intensity on each side. The pressure on the artery must have been extremely slight, and not at all upon the veins, the lower extremities and external genitals being free from œdema. The bruit, however, may have emanated from the uterine arteries, as in cases of other enlargements of the uterus. A very interesting anomaly existed in the absence of both excessive hemorrhage

and pain. Hemorrhage was undoubtedly replaced by the constant and free discharge of thin watery fluid. This fluid was not a mucus from the glands; it was a pure hydrorrhœa, and it had almost the same blood-draining effect upon the system of the patient as a metrorrhagia.* It acted as a constant drain to the vessels of the mucous membrane of the uterus which otherwise would have become hemorrhagic. The absence of pain is accounted for by the tumor occupying almost entirely the abdominal cavity, where it had plenty of space and freedom to enlarge without causing undue pressure upon nerve trunks. During the vaginal examination this condition was evident; the fingers could be passed with ease high up along the curve of the sacrum between it and the posterior limit of the growth. The sound also passed directly along the uterine cavity, close to and parallel with the sacral curve. All these data would show that the growth originally began in the fundus and extended down the anterior segment of the uterus, occupying almost entirely that wall, with extension to the sides.

The most painful forms of these neoplasms are those which begin in the lower zone of the posterior uterine wall, and extending downwards become firmly incarcerated in the cavity of the pelvis. I have assisted at cases of hysterectomy where it required the combined strength of the operator's two hands—one of them being aided by a cork-screw driven into the mass from above—to dislodge the growth from the pelvis.

It may be asked, what are the chances of a patient with so large a myoma as the one we have been considering, without surgical treatment? It is well known that such tumors may decline or become quiescent as the patient passes the limit of ovarian activity; but to say that these patients are not, every day they exist, in imminent danger of sudden death, is not true. Cases are recorded where those women have been attacked with dyspnœa and died suddenly of embolism. The blood of such women is in the most favorable condition to the formation of

* In cases of large myomata accompanied with hydrorrhœa, it may be suspected that the interior of the growth is the seat of fluid accumulations—so-called fibro-cystic tumors. These tumors, however, are generally of the sub-peritoneal variety.

blood-clot, and this sudden and unexpected danger should not be lost sight of, or the patient misled in regard to it.

CASE II.—*Hemorrhagic Endometritis following Abortion.*—Aged 42; last child 2 years of age. States she had not menstruated for the period of one year and nine months, then became regular for three months, the last of which period was in May 1887. She missed June and July, and a few days afterwards had a severe hemorrhage, passing large masses. This bleeding became chronic, and continued to remain so for three weeks, when I was consulted. I found the uterus enlarged, freely moveable, retroflexed, and discharging freely of dark, venous blood. The cervix showed evidence of laceration and hypertrophy. I drew the uterus well down with volsella, and using the sharp curette removed a piece of decidua from fundus and hundreds of little vegetations. Patient during operation suffered no pain nor inconvenience. She had no blood discharge after the following day, and was up and well that day week.

CASE III.—*Hemorrhagic Endometritis following Abortion.*—This was a young married woman. She had given birth to one child eighteen months previously. Three months ago she became again pregnant, and had a most violent hemorrhage two days before I had been asked to see her. I found her blanched and bleeding pretty freely. On introducing the speculum, an extensive bilateral laceration of cervix became apparent. From the left corner of uterus a small piece of decidua was removed with the curette, and the rest of the interior of the uterus thoroughly brought under the influence of the instrument. This patient declared a week after the operation that she had not been so well for years.

The good effect of using the curette in these cases is attained by breaking up a vicious circle of endometritis and abortion following one another. A young woman aborts from some unforeseen cause; a small piece of decidua remains; hemorrhage and general debility ensue. The uterus, instead of involuting remains enlarged, tender, and becomes displaced. After a varied

and uncertain period of time the hemorrhage gives place to a leucorrhœa. Impregnation again takes place, and after the second month again abortion occurs, and so on repeating this vicious order of events until we have one of the most difficult morbid states it is possible for a woman to acquire, to break up. And I may say that after careful observation in the use of the curette, I am satisfied that the proper time to use the instrument in these cases is at the time of the casting off of the ovum. Under such circumstances we remove every vestage of adherent decidua, and also of swollen and thickened mucous membrane, forming what is known as the true decidua. After such an operation, the entire diseased endometrium—a lymphoid organ —has been removed. From the underlying muscularis a new endometrium is quickly formed, healthy in condition and capable of generating a sound placenta, what its predecessor could not have done.

To say that every uterus which aborts has a diseased lining, would not be scientifically true ; but to say that the lining of a uterus after repeated abortions *becomes* diseased, and will fail to produce a healthy placenta in the future is, I think, unexceptionally true. Dr. Arthur W. Johnston's and Bland Sutton's writings upon the *menstrual organ* in this respect are well worth studying (*British Gynæcological Journal*, September, 1886). I will even go further upon this question and state that women who are habitual miscarriers, are so, in many cases, from possessing a diseased endometrium, causing a blight of the ovum year after year.

Reviews and Notices of Books.

Experimental Researches in Artificial Respiration in Still-born Children.—By F. H. CHAMPNEYS, M.B., F.R.C.P. London : H. K. Lewis, Gower St.

It is seldom that one finds so much valuable information compressed into such small compass (148 pages). The author has collected from the Medico-Chirurgical Transactions and the *International Journal of the Medical Sciences* seven papers, detailing his researches upon the comparative value of the dif-

ferent methods proposed for the resuscitation of still-born children. As the information obtainable from the ordinary text-books is meagre and incomplete, this book is particularly interesting. Dr. Champneys points out that attention should always be directed to the stage of asphyxia present, before treatment is begun. If in the first (livid) stage, reflex action can generally be relied upon, and almost any form of irritation will set up respiratory movement; but if in the second (pale) stage, reflex action is not to be relied upon, and all forms of irritation are useless and a waste of time. His experiments lead him to reject the methods of Marshall Hall, Howard and Schroeder as useless, and leaves the choice between those of Schultze and Silvester (with its modifications by Pacini, Bain and Schücking). He decides in favor of Silvester's method, and concludes that, provided the feet are fixed and the body properly laid, the mode of seizure (by arm or shoulder) is of no moment. He strongly favors late tying of the cord, even in cases of livid asphyxia, where many authors advise that half an ounce of blood be allowed to flow from the cord before it is tied. This blood-letting treatment is based upon the full-blooded appearance of the child, and is objectionable, because the livid child has no more blood than the pale child, the difference being one of distribution rather than amount. Dr. Champneys' book deserves nothing but praise.

A Handbook of General and Operative Gynæcology. By HEGAR and KALTENBACH. In two volumes. Vol. I. Edited by DR. E. H. GRANDIN. New York: Wm. Wood & Co. 1887.

The original German work is such a standard on the continent, that its appearance in English dress will be heartily welcomed by the profession. This volume is devoted to gynæcological examinations, minor therapeutic manipulations and elementary operations, and operations upon the ovaries. The chapter on Ovariotomy is by Kaltenbach, the remainder is by Hegar. The book is full of valuable information, but the point of view is purely German. It is a pity that the name *castration*, so offensive to many, has been retained for operations upon the uterine

appendages. The terms *castration* and *spaying* are still the subject of so much prejudice and misapprehension, that it would be at least politic for advocates of these operations to adopt terms more euphonious and at the same time less irritating.

Diseases of the Female Urethra and Bladder.—By PROF. WINKEL of Munich; and

Diseases of the Vagina.—By PROF. BREISKY of Vienna. Edited by DR. E. H. GRANDIN. New York: Wm. Wood & Co. 1887.

This is volume X of Wood's Cyclopædia of Obstetrics and Gynæcology. It has been found inconvenient to issue the volumes in their regular order. Vols. 1, 2, 3, 4, 6 and 10 are now out; the others are promised in the following order: vols. 9, 7, 8, 11, 12 and 5. Winkel is well known to English readers, first by his work on the "Pathology of Childbed," translated in 1876 by Dr. Chadwick, and quite recently by his "Diseases of Women." Breisky is not as well known, except to those familiar with German literature. However, his appointment as successor to Spaeth in Vienna is a proof of the high regard in which he is held by his fellow-countrymen. We have nothing but praise for this work.

Elementary Microscopical Technology.—By FRANK L. JAMES, Ph.D., M.D. St. Louis, Mo.: St. Louis Medical and Surgical Journal Co. 1887.

This is but one part of a work on General Microscopical Technology by Dr. James. As this part is simply the "technical history of a slide from the crude materials to the finished mount," it relates only to practical work. It does not pretend to give more than a very few of the principal and most useful methods in the various steps in the preparation of specimens. In thus avoiding the *embarrass de richesse* of methods, it of great help to anyone commencing microscopical work. It seems somewhat strange, however, that in speaking of the freezing methods of making sections, no reference whatever is made to the ether-freezing microtome, which is the simplest and quickest method

of making sections. Of course freezing has its disadvantages, but when that plan is adopted, the ether is far ahead of the various "freezing mixtures" referred to.

Some of the minor details referred to in various parts of this book are most valuable; it would help considerably if the same minuteness was applied to the description of the cuts. Fig. 11, for instance, which is a modification of Ranvier's photophore, requires explanation. Fig. 1 may represent the "Army Medical Museum Microtome," nevertheless it was first introduced by Dr. Rutherford of Edinburgh, and, consequently, in most works on microscopy is recognized as "Rutherford's Microtome," which is superseded by equally simple and much better instruments.

The book is a very useful one; it contains the most recent methods, and is especially suited for anyone commencing practical histology.

Transactions of the Michigan State Medical Society. Twenty-second Annual Session.

We have received the Transactions of the Michigan State Medical Society of the twenty-second annual meeting, held at Lansing, May 12th and 13th, 1887. In the section on Midwifery and Gynæcology there were some very valuable and instructive papers read. Amongst the most noticeable are—

"*When shall the Uterine Appendages be Removed?*" by Dr. Julius A. Post of Lansing. In this paper the writer relates the history of four cases, each of which is brought forward with a view of showing a class which should be operated upon in order that health be restored. The discussion on this paper by such gentlemen as Dr. Geo. E. Ranney, Manton and J. H. Carstene is of an able and interesting character.

"*What is Vaginismus?*" by Dr. W. P. Manton of Detroit. In a carefully prepared paper, the author adopts the view that this condition is owing to a spasm of the levator ani muscle.

"*Ovariotomy*," by Dr. A. W. Nichols of Greenville; "*Is Gynæcology Fashionable?*" by Dr. J. A. Porter of Brooklyn; and "*Radical Cure of Displacements of the Uterus and Procidentia by Alexander's Operation and Median Colporraphy*," by

Dr. J. H. Kellogg of Battle Creek, are all very interesting papers. The plates in Dr. Kellogg's paper however, we hope, are intended to be roughly diagrammatic, otherwise they are very terrible.

"*Child-Birth Lacerations*," by Dr. W. C. Walle of Holley, is an exceedingly interesting and practical essay. To notice here the many excellent practical observations on procedure would be more than space would admit of. But speaking of sutures for cervical lacerations, the author mentions horse-hair. We would say why not try silk-worm gut shotted, a suture of somewhat like nature, much more manageable and cleaner. We would also call the author's attention to the fact that few men who have once used the purse-string "one suture" operation for the immediate repair of the lacerated perineum will ever use more than one suture upon a future occasion. It is described in most of the recent text-books on Surgical Gynæcology, and "Buck's Handbook of Medical Sciences" has an article upon it.

Anæmia.—By F. P. HENRY, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. (Reprinted from the Polyclinic.) Philadelphia: P. Blakiston, Son & Co.

In this small work we have a very full and accurate account of the different forms of anæmia, as they present themselves in practice. To any one wishing to be cognizant of the latest views on the nature and treatment of this important group of diseases, we would recommend them to read this work.

Society Proceedings.

TORONTO MEDICAL SOCIETY.

Stated Meeting, June 2, 1887.

DR. MACHELL, 1ST VICE-PRESIDENT, IN THE CHAIR.

The following pathological specimens were shown:

Cystitis; adherent Pericardium.—DR. W. H. B. AIKINS presented the bladder, ureters, kidneys, uterus and heart, removed at an autopsy in the General Hospital. The walls of the bladder were greatly thickened and there was evidence of an old cystitis; the ureters also were hypertrophied, and the kidneys, which showed the cortical substance contracted, contained in their dilated pelves a quantity of pus mixed with urine; the uterus from the same cause had a lateral flexion. The pericardium was so firmly attached to the heart throughout as to be separated with difficulty, and would closely correspond with what the ancients described as congenital absence of the pericardium.

DR. A. H. WRIGHT had seen this patient *intra vitam* as an out-door patient at the General Hospital. She was said to have an abdominal tumor, but this proved to be a distended bladder; 30 or 40 ounces of rather turbid urine were drawn off. Some days later he was called to see her at her own home. She was then suffering from incontinence, but there was no distention of the bladder; had rather serious symptoms which he thought might be uræmic; advised her to go into hospital; did not see her again. Was surprised at appearance of bladder presented; it looked like a bladder slightly contracted, with thickened walls; would not suppose it could hold so much as 30 or 40 ounces.

Sycosis Parasitica.—DR. CRUICKSHANK (Ellesmere) presented a patient suffering from sycosis parasitica. The affection commenced about a month ago. A flattened tumor two by three inches in extent and presenting a dark red areola develeped in the superior carotid region. It was pulsatile, but had not the expanding pulsation of aneurism. In several spots on the tumor were nodules topped by a discharging pustule. Similar spots were also present on other parts of the neck and on the face

and hands. Iodine seemed to aggravate the condition, but poulticing, followed by a dressing of corrosive sublimate (gr. ij ad ℥i), were found beneficial. The mycelium and spores of tinea were found under the microscope. Some cattle in the neighborhood had ringworm at the time, and it was supposed these were the source of contagion.

DR. FERGUSON had found chrysophanic acid useful in similar cases, and had also used the sublimate in collodion, gr. x ad ℥i, as advised by Taylor.

DR. AIKINS, speaking of the rarity of infections from cattle, quoted Neumann as having reported but seven cases in which the disease was derived from the lower animals.

Ovaries and Tubes.—DR. CAMERON presented the ovaries and tubes from three cases. (1) A woman aged 24 complained of severe pelvic pain for two years, and was incapacitated for work. She had had three attacks of peritonitis, and there was great and constant pain over the lower part of the abdomen. Tait's operation was performed. Small cysts were found in both broad ligaments; the ovaries were enlarged, inflamed, and adherent to the surrounding structures, especially the right.

(2) Patient aged 19 years. She had dysmenorrhœa with acute pelvic pain at and between the catamenial periods. She was bedridden, with repeated attacks of pelvic cellulitis. Dr. Ogden advised forcible dilatation of the cervix with the hope of allaying the constant vomiting from which the patient suffered. This was done, but without benefit. The operation was then performed, and patient has since entirely recovered from all these distressing symptoms.

(3) Ovaries and tubes from a case operated on by Dr. Bryce. The woman was aged 40, married, and had six children. She suffered from profuse hemorrhages, pains in the pelvis, and reflex symptoms. Both ovaries were prolapsed into Douglas's pouch and very tender. A uterine displacement was relieved for a time by a pessary, but the symptoms returned. The patient recovered from the effects of the operation without any bad symptoms, and is now practically well.

DR. A. H. WRIGHT is opposed to forcible dilation, although

it has been found useful in the hands of Goodell. It certainly never should be employed when there is any cellulitis. He is opposed to the removal of the uterine appendages of a young woman otherwise healthy, unless every known palliative measure has been found useless. Sir Spencer Wells will never give his consent to an operation unless the alternative is death or loss of reason.

Fusiform Aneurism.—DR. ATHERTON exhibited a specimen of fusiform aneurism of the popliteal artery with consecutive thrombosis of the vessel above and below, resulting in senile gangrene.

—At the annual meeting of the Bathurst and Rideau Medical Association, held at Carleton Place, July 13th, the following officers were elected for the ensuing year:

President—Dr. Carnston, Arnprior.

1*st Vice-President*—Dr. R. W. Powell, Ottawa.

2*nd Vice-President*—Dr. D. Lynch, Almonte.

Treasurer—Dr. H. Hill, Ottawa.

Secretary—Dr. H. B. Small, Ottawa.

Council—Drs. Preston and McEwen, of Carleton Place; Reeves and Burns, of Almonte; Baird, Pakenham and Groves, of Carp; Robillard, Prevost and Grant, jun., of Ottawa.

Selections.

Local Treatment of Scrofulous Glands.

By Dr. H. C. Rogers, in *N. Y. Medical Journal.*—All surgeons are familiar with the class of cases to which I would draw attention, and probably there are few of them who have not wished such cases removed from their care. I allude to the large number of strumous children with slowly suppurating cervical and other lymphatic glands, tedious and insidious in their course, and generally, after months and, it may be, years of suffering, ending at the best in elevated or depressed cicatrices and unsightly scars. Under the most careful and judicious treatment the surgeon is most liable to bring disgust to his patient and friends and discredit on himself. The old practice by free incisions, blisters, valvular openings, and other means which were in use ten years ago, or have been introduced within that period, I have had recourse to with varying results, a few cases healing kindly, while others (the majority), in every respect favorable, have tried my skill and patience for weeks and even months. During the past two years I have pursued one of two lines of treatment: (1) Teal's method of dissecting out the enlarged and inflamed glands and scraping old sinuses. I have resorted to this method in three cases, with results which were all that could be desired. The one objection to it is that it is quite an operation and cannot be adopted without an anæsthetic. To this the parents and friends of the children frequently object, remarking that they would rather take a longer time than to have any operation performed on their little ones. (2) In the *Annals of Surgery* for December, 1885, p. 493, will be found an editorial by Dr. L. S. Pilcher reviewing an article in the *Revue de Chirurgie* for May, 1885, by Prof. Verneuil of Paris, on the treatment of cold abscess by drawing off the pus and injecting an ethereal solution of iodoform. I have treated by the method now mentioned nine cases in all. The swelling has gradually disappeared, taking from three weeks to two months. Professor Verneuil's plan is, first to evacuate the abscess by aspiration. To do this he makes use of a large-sized trocar, handling the

parts as little as possible. As soon as the liquid becomes slightly blood-stained he injects the cavity with the solution, which is one of five per cent. The largest quantity used is one hundred grammes; generally fifty or sixty grammes suffice. The amount of iodoform remaining in the abscess cavity to be absorbed rarely exceeds four to five grammes. He has never seen any bad effects from the absorption of ether. My experience has been that generally one injection will be sufficient. In only three cases have I found it necessary to repeat the injection into the same swelling. In four cases I injected glands where I could not find pus, but where the centre of the swelling was soft and in a condition to break down. In such cases my plan is to inject from ten to twenty minims of a two to three per cent. solution. In all cases the swelling is gradually reduced, so that in from four weeks to three months it has entirely disappeared. In all my cases I have employed internal treatment, as all the patients were more or less anæmic.—*The Epitome.*

The Proper Employment of Prepared Foods for Infants.—By Dr. Victor C. Vaughan, in *Medical News.*—In the article referred to I urged that no milk should be given to the sick child with cholera infantum or other summer diarrhœas. This prohibition applies to all prepared foods containing milk or to which milk must be added. Recently I obtained all the infant foods I could find in the market, prepared them according to the directions accompanying them, placed them in four-ounce bottles, making a duplicate test for each food, added some of the ferment which I had found would produce tyrotoxicon in milk, and kept the tightly stoppered bottles at a temperature of 38°C. for six hours, then tested the contents of each bottle for the poison, and found it present in every one of them. It should be clearly understood here that the poisonous ferment was added to the foods. This experiment fulfils the conditions which would exist were a child sick with cholera infantum to be fed with one of these foods; provided always, of course, that my theory as to the causation of this and kindred diseases in children is true. Some preparations of peptonoids

and peptones treated in the same manner as the infant foods failed to develop the poison, at least in quantities sufficient to be recognized by any chemical test. I may add here that a similar experiment was made with milk which had been boiled, and in this also the poison was developed. But in the boiled milk to which no ferment was added, as well as in the unboiled milk to which no ferment was added, the poison did not appear, at least within the six hours. Now, from these experiments I conclude that foods prepared from milk or to which milk must be added are not suitable for children who are suffering from the summer diarrhœas. Just why the poison should appear in the milk preparations and not in the peptonoids, I cannot say. There are several possible explanations. The growth of the germ may simply be more rapid in one than in the other, and the difference in the development may be only one of time; but a difference of this kind is sufficient for all practical purposes. Then have the prepared milk foods no legitimate use? I think they have, and desire to point out what I consider to be their proper employment. Even under the most favorable conditions, milk can be kept unchanged only for a short time in summer. There is the same reason for the drying of milk and the preservation of its solids that there is for the curing of meat or the canning of fruit. The dried milk solids may be transported any distance and kept for any reasonable length of time, if properly prepared, without undergoing putrefactive changes. But they are to be used with children free from the summer diarrhœas rather than with those suffering from those complaints. Where the source of the milk supply is doubtful, a properly prepared milk food would be much more reliable than the raw milk. Besides, with any dilution or addition that may be made, cow's milk cannot be rendered identical with the milk of women. Can the milk of the cow be rendered more nearly identical with that of woman than it is by the simple dilution with water and the addition of milk sugar? All chemists, I think, agree that woman's milk contains more peptone than does the milk of the cow. Kirchner, who has given much attention to this subject, and has experimented largely, believes that the difference in the digestibility of milk

from the cow and that from woman is wholly due to the larger amount of peptone in the latter. I cannot see, therefore, why the casein of the cow's milk should not be partially digested. That it should not be completely digested, I think there can be no question. It is certainly unscientific to feed any one for any length of time upon peptones altogether; especially is this true of children. To relieve the gastric juice altogether is to diminish its secretion. The muscle of the arm, the brain, and, indeed, every part of the body, is weakened by inactivity. The stomach can be no exception to this rule. It must have something to do, or it will soon be unable to do anything. There may be, and doubtlessly are, exceptional cases in which the temporary administration of peptones exclusively is desirable. But these are exceptional cases, and the administration of the completely digested food should be only temporary. Certainly these cases do not include healthy children. For these reasons I generally prefer the partially digested meat preparations to the peptones. —*The Epitome.*

Treatment of Erysipelas.—By Robert Pollox, M.B., in *Glasgow Medical Journal.*—The treatment of erysipelas is most varied, nearly every practitioner who sees much of this affection having formulated a certain line of action for himself. I am of the opinion that the treatment must depend upon the type of the disease. In all the cases I have seen, the treatment demanded was a stimulating one. I refer to simple general erysipelas. But in localized erysipelas affecting the throat, ear and pharynx, aconite in small doses, frequently repeated, as recommended by Ringer, has been productive of the happiest effects when administered at the beginning of the attack. I will take as a typical example of simple cutaneous erysipelas that form which we so commonly see, commencing over the root of the nose and spreading over the face and forehead. In such cases I immediately begin the administration of 20 to 30 minims of tinct. ferri mur. (diluted of course with water) every two hours; and as a protective and palliative, I use: ℞ Gutta Percha, ʒii; Chlorof. Meth., ʒii solve; Zinc. Oleati, ʒii; Iodoformi, ʒss. M. Sig.—To be painted over the part affected.

The advantage of this preparation over the powdered starch, zinc or flour is its comeliness. Of course, previously to applying this preparation I have the parts carefully washed with tepid water, and often when there is much pain I use the decoction of poppy heads as a fomentation. This treatment usually effects an amelioration of the symptoms and the disease subsides. But in some cases the course of the disease does not stop here; it runs riot all over the head and neck, and the medicinal treatment then pursued is ammonia, bark, iron and quinine, with perhaps a grain of solid opium to obtain rest. I am happy to state that I have never lost a case of erysipelas, although the duration and severity of the complaint have varied much. The *rationale* of the local application above mentioned must be purely protective and palliative by excluding the irritating effects of the cold air, and not by excluding specific germs. The latest researches prove that the shizomycetes or streptococcus erysipelatosus is anærobic, or flourishes where air is excluded, living in and upon the tissues affected. I may note the many methods of treatment recommended, such as compression, or ligatures applied above the seat of the affection, advocated by Velpeau; the application of a solution of nitrate of silver in the form of a ring around the redness (Higginbotham's method); the application of tincture of iodine, white paint, solutions of tannin, silicate of soda, used by Alvarenga of Lisbon; the subcutaneous injection of carbolic acid or salicylic acid directly into the part, and the internal administration of quinine in large doses, or salicylate of ammonium, suggested by Dr. Barclay of St. George's Hospital. These may all be good, but so satisfactory have been the results by the iron and the antiseptic anodyne externally applied, that I have had no reason to depart from that treatment. I earnestly look after the hygienic surroundings of the patient, and give eggs, milk, beef-tea and other stimulating and light diet. The disease may, however, pass into a stage when surgical treatment must be adopted.—*The Epitome.*

Precocious Children.—The precocious child is constantly saying things so epigrammatic and brilliant as to call

out the wonder of admiring parents and relations; and oftentimes these strange unnatural utterances are made the subject of remark in the presence of the child, and some newspapers often devote a column to this bright and abnormal child-talk. Nothing could be more harmful than such encouragement of a condition that is out of all harmony with healthful mental and physical growth. As a rule, the precocious child is of a strumous or scrofulous diathesis, with a fair, brilliant complexion, blue eyes and golden hair, beautiful to look upon according to popular standards. He is delicately sensitive to mental impressions, and alive to the conversation of persons much older than he. He generally goes on in his unique career, outstripping his brothers and sisters, as well as his schoolmates, in the committing of tasks at school, as well as in the reading of books far beyond their comprehension. This generally goes on until the age of puberty, when he begins to falter. The hectic flush is seen upon the fair cheek, the eye becomes more brilliant, and the finer and the spiritual elements come out with almost supernatural intensity. By and by a slight cough arrests the attention; and, before the fond parent is aware, phthisis tuberculosis has laid the foundation for premature death.

Now, what shall be done to save such children, and make them develop into healthy men and women? First, we would say, *Let them severely alone.* By this we mean, do not encourage the precocious development by pushing the child ahead and showing the foolish weakness of exhibiting the child to visitors, or displaying him at the performances of Sunday-school concert or public-school exhibitions. We always pity the poor victims of such scenes, who come before audiences and recite standard poems or sing *cavatinas* to astonished crowds in heated rooms, amid the glare of gas-lights and dressed in tawdy finery, irrespective of the climate or weather. When we look upon their pale faces and attenuated legs, we wish we had the power to send them home and put them to bed. Second, be simple with such children; keep them young, and encourage them to talk child-talk, to read child-books, and to play with other children. Do not let them remain in the house in company with the older

folk, when the bright sun is shining, and the other children are romping upon the green with all the glorious freedom of childhood. Of paramount importance is the physical training of the precocious child. From the very nature of the case, all undue excitement must be avoided. The full quota of sleep must be insisted upon. No late hours should be allowed, full of the amusements that are such a strain upon the nervous system. The diet should be of the simplest character, consisting of food containing all the elements of nutrition, like milk, bread and soups. Confections, condiments and fancy dishes should never be set before children. Give fresh air in abundance, and insure the child to go out of doors in all kinds of weather.—*Popular Science Monthly.*

Abuses of Milk Diet in Therapeutics.—The therapeutical employment of milk not only has been popularized and the lay public made familiar with its various adaptations, but in the wake of the general apprehension has followed the usual exaggerations, and hence it is prescribed with little regard to the conditions properly requiring it. Under these circumstances it seems desirable to indicate the limitations of this therapeutical food, and to show wherein it may be hurtful rather than beneficial.

In certain disorders of the digestive functions, milk causes a sense of discomfort, decided uneasiness, oppression—sometimes even pain, and it prolongs the morbid condition. The cases of this kind may be grouped into two classes: those in whom the caseine is the offending material; those who cannot properly digest the cream or butter. We find examples of the first class more frequently amongst children, but they are by no means uncommon in adults. They are detected the more readily in early life, because the curds are rejected by vomiting, or appear undigested in the stools. Adults unable to digest caseine, or who digest it slowly or painfully, have epigastric distress, heaviness and oppression for several hours after meals, stupor and disinclination for exertion coming on after an hour or two and continuing until the offending material has passed well down the intestines.

An excellent substitute for the milk when the caseine disagrees is barley-water with cream. The barley-water should be carefully strained and have the density of good skimmed milk, and one-sixth or one-fourth cream added, so that the mixture has the consistency of rich milk.

The second class of subjects to whom milk is unadapted are the cases of duodenal, hepatic and pancreatic diseases, because of the deficiency in the secretions necessary to the process of emulsionizing fats, and preparing them for entrance into the lymph vessels. Fats decomposing form very irritating fat acids, and the change in the reaction of the intestinal juices is the cause of serious secondary troubles in the biliary functions and elsewhere. To fit milk for use under such circumstances, it must be skimmed, and about the time the stomach digestion is completed, aids to the intestinal digestion should be administered. Such aids are a soda alkali, and it may be, some pancreative solution to effect complete digestion of the fatty constituents.

The mere bulk of the cream is an objection to its use in certain diseases. In dilatation of the stomach, the space occupied by the necessary quantity perpetuates the disease. The reflex effects of distension of the stomach in cases of weak heart, and in angina pectoris, may not only cause distressing symptoms, but may even prove fatal. It cannot be too strongly stated that milk is a highly objectionable aliment in heart disease, whenever the motor apparatus of the organ is diseased, and whenever its movements are readily influenced by morbid states of the stomach through the reflex channels..

In no malady, as I conceive, is milk more abused than in acute rheumatism. It is very often the chief—sometimes the only aliment employed during the whole cause of this disease. Besides the objection inherent in its mere bulk, certain theoretical considerations of its nature should have considerable weight in deciding the question of use. The very obvious objection that milk furnishes lactic acid as a product of its fermentation, should not be ignored. All the world knows the intimate relation between lactic acid and the rheumatic poison. By the introduction of lactic acid, a form of endocarditis, not distinguishable from the

rheumatic, is set up, and of those diabetics treated by lactic acid, a considerable proportion suffered from attacks of rheumatic fever (acute rheumatism). It is difficult, of course, to determine this point with certainty, but I have reason to believe that patients with rheumatic fever do not get well so quickly, and are much more apt to have relapses when they consume much milk during the course of the disease. Surely, sufficient reasons exist for undertaking a thorough investigation of the question. My own practice, in the cases in which I am consulted, is to advise against the use of milk as an aliment in acute rheumatism.

In typhoid fever, milk is the one food now given, irrespective of the character of the cases. Of late this almost universal practice has come to be challenged. It has been depended on, without investigating the state of the digestive functions, and quite unmindful of the effect it may have on heat production. It is often given in too great quantity at a time, or so frequently that the stomach has not disposed of one quota before another is thrust upon it. Unless the gastric juice has preserved to a considerable extent its power of converting the albuminoids into peptones—which we have no right to expect—the caseine resists its action; hence it follows that the materials of digestion should be administered soon after the milk is taken, and to prescribe it without reference to the ability of the stomach to dispose of it is to insure increased fever and delirium, and more frequent stools. Besides supplying the means for proper digestion of the milk, attention should be given to its administration at such intervals that every portion given may be disposed of before another is permitted to enter the stomach. It is a trite observation, which is not therefore the less true, that it is more important to the nutrition if some food be well digested rather than a large amount be merely swallowed.

Notwithstanding, since Donkin's first reports, milk has entered largely into the dietary of diabetics, its utility has recently come to be seriously questioned. If conversion of milk sugar into grape sugar does not take place, there can be no doubt of the value of milk in this disease, since it possesses so great a number of alimentary constituents. If, as now asserted, this con-

version does take place, the free administration of milk in diabetes must be regarded as an abuse.—ROBERTS BARTHOLOW, M.D., LL.D., in the *Journal of Reconstructives*, July 13, 1887.

Hemorrhoids.—By Dr. A. G. Gerster, in *Philadelphia Medical Times.*—I believe that a moderate degree of hemorrhoidal trouble can be treated successfully by carbolic acid injection. The objection raised to this method is that it sometimes causes extensive sloughing, not only of the hemorrhoidal node, but of a large portion of the mucous membrane of the rectum. A case occurring in New York was reported, I believe, in the *Medical Record*, in which four inches of the rectal mucous membrane came away after a single injection of a hemorrhoidal node with carbolic acid. In some cases phlebitis, etc., have resulted, placing the patient in great danger. But my personal experience with this method is limited to only one case. I have not employed it oftener, because most of the cases which come under my care are either light cases, not calling for any operation, or grave cases in which I prefer to give positive and permanent relief by resorting to the operation which you have seen me repeatedly perform at the hospital. I mean the use of either the ligature or the actual cautery and clamp.

Mild cases of hemorrhoids, or those in the incipient stage, I frequently see get well without any operation at all. I have my share of such cases and I rarely operate upon them. But I take the trouble to examine the patient carefully from head to foot to learn all that I can about his internal economy. First, I examine for large masses of fæcal matter hoarded up in the gut. This is a very ordinary condition of things in a man of sedentary habits who is overfed and does not take sufficient exercise. Nearly all persons who suffer from hemorrhoids belong to this class. On examining them carefully you will find the large gut filled with fæcal matter. But they may assure you that they are as regular as clock-work; they have a motion of the bowels every morning, and sufficient they think. Apparently it is sufficient. The evacuations which these patients have take place only through the middle of the gut, and more and more

of the fæcal matter becomes deposited on the walls. Imagine an old sewer being filled up in that manner, and you can form some idea of the interior of these people.

Now, give this patient a good dose of calomel and salts, causing his bowels to move freely, and then examine him, and you will often still find a large quantity of fæces distending the intestine. But after once thoroughly cleansing out your patient he will not need an operation for the hemorrhoids. You will have done what a learned, sensible physician should do. You will not have treated the hemorrhoids as the pile-doctor does, whose vision does not extend beyond the internal sphincter, but you will have treated them as does the modern intelligent physician, whose vision takes in the entire patient. You will have cleaned out the Augean stables and have done the man a real service.

Look upon another patient, a fat man, one whose skin is pale, and who appears to have no blood. Examine him, and you find that he has an enlarged liver. You question him, and you find that he has been drinking more beer than is good for him. Now, if such a man has internal hemorrhoids, would it be rational simply to treat those hemorrhoids? He looks like a vigorous man, but you find that after ascending a few steps to enter your office he is out of breath and is glad to sit down and rest himself. He has come to be treated for hemorrhoids, but on further examination you find not only enlargement of the liver, but also disease of the heart. There is obstruction of the whole portal circulation. Of course, the hemorrhoidal veins are over-filled. Would it be rational for the physician to treat such a patient simply for hemorrhoids? Of course not. If he did so treat him his diploma should be taken from him. The heart disease ought to be treated, and, if successfully, the hemorrhoids will disappear. I have given these examples to show that hemorrhoids in the incipient stage do not require surgical treatment. Topical treatment will, of course make it easier for you to effect a cure, and it will satisfy the patient. He will feel that something is being done for his piles. He could not understand that you were benefiting a diseased condition in his rectum by treating his heart

alone. He is a layman; he cannot see through the whole case. A good many doctors cannot. Therefore, give him some application for the anus. Let him put an ice-bag there, or a salve, or use an astringent injection.

But when you have to deal with a hemorrhoidal condition of an aggravated character, where considerable pathological change has taken place, where there is considerable infiltration and hypertrophy and prolapsus of the mucous membrane surrounding the hemorrhoidal nodes, where they have become ulcerated and reached that stage when they cannot shrink and return to a normal state, then a surgical operation will be necessary.

The Bergeon Treatment and Pneumatic Differentiation.—The enthusiasm aroused by the claims of the advocates of rectal injections of sulphuretted hydrogen gas as a remedy for phthisis has sufficiently subsided to permit a dispassionate estimate of the value of the remedy. In popular parlance, the treatment was boomed with great vigor for a time, but it has now settled down to its legitimate value. It is to be feared that the hopes which consumptives based on it have not been realized, and that these unfortunates must suffer and die as before, although, doubtless, some may find relief from the newer method as some have received and will continue to receive relief from the method of treatment employed in the beginning. The one fact which has been developed out of the recent excitement in connection with the Bergeon treatment is that the specific for phthisis has not yet been unearthed.

Pneumatic differentiation which preceded Bergeon's method in the consideration which it received at the hands of the profession, while not attracting so much attention, owing, probably, to the cost of the necessary apparatus, nevertheless presented big hopes in certain quarters. It, too, has found its level; and we have been quite interested in a statement of the comparative value of these two later additions to the physician's armamentarium for consumption, as prepared by Dr. John A. Robison, of Chicago:—

"Since the discovery by Koch of the bacillus tuberculosis,

the leading minds of the profession have been actively at work trying to formulate some mode of attack by means of which this foe to health may be routed. The presence of this bacillus has been acknowledged by nearly all pathologists to be positive proof of phthisis. Of course there has been a difference of opinion as to whether the bacillus is the cause of tuberculosis, or whether it is simply a bacterium which only thrives in tubercular soil. In accordance with these two theories, there have been formulated two methods of treatment: first, to introduce directly into the air cells an antiseptic and germicide, with the double object of killing the bacillus and rendering the native soil unfit for habitation; second, a method of treatment has been inaugurated in which the sole purpose is to cause the habitat of the bacillus to be so changed that it cannot thrive. The first method is called pneumatic differentiation, the second gaseous enemata or Bergeon's treatment.

Both methods of treatment are highly endorsed by leading members of our profession. Remarkable results, according to the reports of the observers, have followed the use of each treatment.

Of the cases treated by pneumatic differentiation 23 per cent. die, 35 per cent. are improved, and 30 per cent. are not improved, while ten per cent. recover. Of the cases treated by gaseous enemata 9 per cent. die, 71 per cent. are improved, 15 per cent. are not improved, while only 1 per cent. recover. A glance at these figures would lead one to render a verdict in favor of gaseous enemata. And it is probable that if the present craze for Bergeon's treatment prevails longer, the statistics will show a much larger percentage of recoveries. But it would be manifestly unjust for us to render a verdict on the above figures. It will be noticed that the percentage of improvements by gaseous enemata is 71 per cent., and by pneumatic differentiation 35 per cent. But the fact must be remembered that the improvement under the gaseous treatment is often temporary. Dr. Fitch writes:—"In every case the improvement, though rapid at first, has been partially or entirely arrested after a time." Dr. William Pepper, of Philadelphia, says:—"This method of

treatment is seldom of real benefit, although it is occasionally of benefit by relieving certain symptoms." Therefore, we must conclude that very faulty deductions may be made from statistics. My object in thus going into detail is to enter a protest against the fashionable method of reasoning now so prevalent among physicians. They keep records of a certain number of cases for a limited period, and observe that certain results follow, and straightway jump to the conclusion that these results are due to the treatment instituted. I insist that, to be of any value, statistics must be carefully kept for a number of years; then they may be reviewed, corrected, and an unbiased judgment passed on them. Conclusion:—Statistics in regard to pneumatic differentiation and gaseous enemata are at the present time worthless.

Then how shall we judge of the value of these treatments? Simply by the action that is obtained on each individual patient. We must follow the same rule in the administration of these agents as in others. We must take into consideration the age, sex, social condition, mode of life, occupation, etc., of the patient; the stage of the disease and its symptoms, and the results which follow the treatment in each case, irrespective of those in other cases. In this way we soon learn to discriminate between the cases, and can to a degree of positiveness tabulate the cases in which these methods of treatment are useful. In my experience the respective treatments have been useful in certain classes of cases. The pneumatic cabinet in my hands has proven a very valuable adjunct to the treatment of catarrhal affections of the naso-pharyngeal and bronchial passages, and has proven excellent for calisthenic purposes in cases of deficient expansion of the chest, chronic pleurisy without effusion, and cases of emphysema. But, unfortunately for me, I have never obtained permanent bonefit in cases of phthsis pulmonalis, except in a young woman who had incipient phthisis. For this reason I have discarded the use of the cabinet in the treatment of phthisis pulmonalis.

The cases in which gaseous enemata have proven of benefit have been those in which the disease was in an advanced stage,

and the symptoms were anorexia, profuse expectoration, fever, night sweets, emaciation, and in some cases diarrhœa. In nearly every case there has been a slight improvement for a few hours, but in only five cases has there been a prolonged benefit. In one of these cases, on admission to the hospital, his temperature was 104° F. He was placed on the gaseous treatment and no antipyretics were given. From March 12 to April 10 his temperature ranged from 101° F. to 104° F. Since April 10 he has been 99° F. or below. This may be a coincidence. The treatment has resulted in these cases in increased appetite and weight, cessation of night sweats, oftentimes disappearance of the diarrhœa, and lessening of the expectoration. In many cases the action of the gas was hypnotic. Alas! these results have proven temporary in nearly every case. But when we were successful in obtaining these results, the patient expressed such a sense of relief, and especially was delighted at the thought of not taking *so much medicine*, that we became firmly convinced it is the duty of the physician to resort to the treatment in these cases even when he can offer no hope of a permanent cure."—*Medical Age.*

Enlargement of Prostate and Cystitis.

Dr. Vercoe writes to the *Medical Age* as follows :—" I think I have found out something new in enlargement of the prostate and cystitis. It is to irrigate the prostate and base of the bladder with a double-eyed catheter per anum with simple hot water. It works well. Like similar applications to the uterus, it requires to be well done. For cystitis also I have found turpentine stupes of decided benefit, applied until a substitutive irritation of the bladder was produced by absorption of the turpentine, then change to flaxseed poultices. It acted well in my last case. I also ordered absolute rest and a strict milk diet."

CANADA

Medical and Surgical Journal.

MONTREAL, SEPTEMBER, 1887.

ICHTHYOSIS CONJUNCTIVÆ.

At the present day, when ophthalmologists are increasing so rapidly in numbers and when all appear eager to rush into print, there is and must of necessity be a great deal of trash written and re-written, the result of short experience and hasty observation. Amid all this, it is refreshing to come across something new and original from men of extended experience and shrewd observation.

We wish to draw the attention of our readers to the subject of a paper recently read by Dr. Buller of Montreal, before the American Ophthalmological Society, at New London, in July last, on the occurrence of a "rare form of granular ophthalmia associated with ichthyosis of the skin." The granules occur on the palpebral conjunctiva, most conspicuously just in front of the retrotarsal fold, where this membrane most nearly resembles the integument in its structure. The "granules" are flattened, irregular in shape, about one to two millimetres in diameter, intensely hard; pale, semi-gelatinous appearance, of a faint red color. The color is due to the presence on their surface of numerous minute rusty dots, each of which consists of a capillary loop. The secretion was pale, extremely tenacious mucus.

Another very important peculiarity is the great stubbornness with which they resist all the usual lines of treatment for granular ophthalmia. The conjunctiva, as a whole, presented a glazed, pinkish appearance.

In the cases observed by Dr. Buller, there was present well-marked ichthyosis of the skin, and taking this association into

consideration, together with the anatomical similarity of the tissues and the probability that both eruptions depend on the same error of general nutrition, he leans to the theory that the ocular trouble is really an ichthyosis of the conjunctiva.

We will shortly enumerate the characteristics which distinguish this eruption from the ordinary trachomata :—

1. Form, size, color and hardness.
2. No tendency to inflammatory exacerbations.
3. Absolutely passive behaviour under ordinary treatment.
4. Character of secretion, which is mucus.
5. Non-contagiousness—the patients being children living with their families, and none of the other members being affected.

These very interesting observations have their parallel in other affections, *e.g.*, lupus, lepra, eczema, epithelioma, pemphigus, &c.

Again, we might remember that the conjunctiva and integument are developmentally of the same origin, viz., epiblastic, which would yield some support to Dr. Buller's theory.

THE SIGNIFICANCE OF THE ABSENCE OF HYDROCHLORIC ACID IN THE GASTRIC JUICE.

Lately much significance has been attached to the absence of hydrochloric acid from the gastric juice. Von den Welden, Debove, Dujardin-Beaumetz, Riegel and others have published observations which tended to show that in many cases of carcinoma of the stomach there is an entire absence of hydrochloric acid from the gastric juice. So confident were those observers of this constant loss, that they considered it a valuable diagnostic symptom.

From some recent researches made by Wolff, of Gothenburg, and Ewald, of Berlin (*Berliner Klin. Wochenschrift*, No. 30, 1887), it is plain that no such significance or value can be attached to the absence of hydrochloric acid. In seventeen patients who were under treatment for various troubles, the contents of the stomach were repeatedly examined, and in eight the gastric juice was always free from hydrochloric acid. Six

of these eight patients were certainly free from carcinoma or any other gastric trouble. Of the remaining two, one had dyspepsia and the other cancer of the uterus. In the uterine cancer case, the stomach after death was found to be free from cancer.

The conclusions derivable from their researches are thus formulated by Wolff and Ewald:

1. That there can be an absence of hydrochloric acid from the contents of the stomach even when administered medicinally, without there being any manifest disease of the stomach.

2. That hydrochloric acid is often not to be detected in diseases of the stomach which are certainly not of a malignant nature.

3. That there are cases (not malignant) also where even the peptone-forming powers of the stomach fail.

EFFECT OF ENTOZOA UPON THE BLOOD.

The *Zeitschrift für Thiermedicin* publishes an account by Dr. R. Wernicke of Buenos Ayres of a local outbreak of severe anæmia among sheep, proving fatal in every instance. In making an autopsy upon two immediately after death, he found nothing beyond great bloodlessness of the organs and a large number of anematoid worms (*strongylus contortus*) in the stomach. Examination of the blood showed that almost all the corpuscles were greatly altered in shape (poikilocystosis); thinking that it might be a post-mortem change, a number of diseased and healthy animals were examined, with the result that in the diseased animals this change was always present, while the blood from healthy sheep showed normally formed corpuscles arranged in rouleaux. That the change was due to the parasite was proved by the fact that on treating the patients with turpentine they all recovered, except a few upon the point of death, while some purposely left without treatment died of the disease.

The above is specially interesting, considered in relation to the recent reports of cases of pernicious anæmia due to Bothriocephalus Latus. It is to be regretted that the report of the blood is not more thoroughly made, no count of the blood corpuscles or estimation of the hæmoglobin being given.

THE MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

This, the largest scientific association on the continent, held its meeting for the current year from the 10th to the 17th of August, in New York. Though this was the thirty-sixth meeting, New York has entertained the association for the first time, and also possibly for the last, for a good many years at least. It seemed to be the opinion of many that socially the meeting was not up to the average, and was in no way worthy of the metropolis of America. The local committee, the authorities of Columbia College, in whose buildings the meetings were held, and certain local scientific societies deserve great praise in making up to a large extent for the indifference of the Gothamites in general.

One of the newspapers says, commenting on the trip around the harbor, which terminated at nearly eight o'clock in the evening, and during which the only refreshment was cold water:— "The people of New York have not regarded the association with the awe bestowed upon it by smaller cities." So much the worse for New York. Probably no city in America, in proportion to its size, has done so little for science as New York; and an analysis of those things for which the metropolis feels "awe" might not tend to raise it in the eyes of the world. There were a good many subjects discussed at the meeting which were of vital importance to great cities, New York included. Poverty on the one hand, and reckless extravagance on the other, are evident in the metropolis to the eye of every visitor. Now, there were some papers and discussions with very direct bearings on these subjects presented, and in a scientific way, with figures of an exact character, that cannot be despised. The New York medical profession, as a whole, ignored the association, though it is to be remembered that many of the best men are away on vacation trips.

A somewhat new feature of the meeting was the joint discussion by members of different sections of questions of great vital importance to the nation. Thus, one entire day was given up to the reading and discussion of two papers by Prof. Atwater,

on "The Physiological and Pecuniary Economy of Food," and "The Food of Workingmen and its Relation to Work Done." Comparison, the writer maintained, showed that the American consumed considerably above the standard of necessity, and *wasted* a great deal more, while the European seldom excelled the standard, and frequently fell below it. In America, all classes of working people consumed far more than was necessary to the maintenance of health and strength. Taking the world through, the mass of people select foods which analysis shows to furnish actual nutrients at the lowest cost. But the people of the United States evince a marked exception. They endeavor to make their diet attractive by paying high prices, rather than by skillfully cooking and tastefully serving. "An inexplicable sensitiveness exists upon this point among American workmen. The best the market affords alone is good enough for them."

Prof. Ordway of New Orleans thought Americans did not consume so much more than Europeans. Waste mostly explained the apparent difference.

French Canadians, continued Professor Atwater, at home consume 3½ lbs of food per day each. On going to Massachusetts factories their quantity of food per day is increased to 5 lbs. The dietaries also of Americans were richer in proteids than foreign ones. As one result, the American can and does turn out more work.

Mrs. Richards, of the Boston Institute of Technology, showed the bearing of cookery on the problem, and complained of the difficulty experienced in inducing the poor to use oatmeal porridge.

In a paper by Prof. James of the University of Pennsylvania, Mr. Atkinson's opinions so widely promulgated were criticized. The former thought Mr. Atkinson's views as to American wealth, etc., altogether too optimistic and without sure foundation in fact.

Before the Anthropological section, Dr. Hart showed, by the statistics of several hundreds of cases, that the mental attitude of the patient was dependent on the site of his disease. He concludes that optimistic views result from diseases above the diaphragm; pessimistic ones from those below it; while maladies

of a constitutional character, as rheumatism, malaria, etc., might incline to either the one or the other. No explanation as to the causation of these psychological tendencies was given.

Canada was not largely represented. Prof. Wesley Mills of McGill University read a paper before the Anthropological section entitled "Study of a small and isolated Community in the Bahama Islands." It illustrated the influence of environment in modifying races. Also a paper before the section of Biology, "On the Physiology of the Heart of the Snake."

Over 730 members attended the meeting, and 200 papers were read.

President Morse delivered a telling address on the accumulating evidence in America for organic evolution.

The next meeting is to be held in Cleveland under the presidency of J. W. Powell, Director of the U. S. Geological Survey. We believe Cleveland, like most cities, will consider it an honor to entertain this great scientific association.

BRITISH MEDICAL ASSOCIATION.

The recent meeting of the British Medical Association in Dublin was one of the most successful ever held. The President, Dr. Banks of Dublin, gave an address on "The History of Medicine in Dublin." Dublin has indeed reason to be proud of the illustrious physicians who have done so much for scientific medicine. Stokes, Graves and Corrigan have written for all time.

The address on Medicine was delivered by Prof. Gairdner, of Glasgow. It was a scholarly and philosophical review of the progress of medicine since the days of Cullen.

The address in Surgery was delivered by Dr. Hamilton, Professor of Surgery in the Royal College of Surgeons of Ireland, "Tissue Resistance and Antisepticism."

The address on "Pharmacology and Therapeutics" was delivered by Dr. Whitla of Belfast. He gave cogent reasons why the general profession should be better represented on the committee whose duty it is to prepare the British Pharmacopeia. The number of useless preparations that encumber this work

exceed the useful, and there will be no change until such time as the voice of the active practitioner will be heard in the committee.

The addresses in the other sections were each and all of great merit.

CANADIAN MEDICAL ASSOCIATION.

The twentieth annual meeting of the Canadian Medical Association, which takes place in Hamilton on the 31st of August and the 1st of September, promises to be one of more than ordinary interest. The following gentlemen will lead the discussions in the various subjects :—

Dr. Grasett of Toronto will open the discussion on Surgery. Subject, " Obstructed Urinary Outflow."

The Hon. Dr. Sullivan of Kingston and Dr. Groves of Fergus will take part in this discussion.

Dr. McPhedran of Toronto will open the discussion on Medicine. Subject, " Empyema." Dr. McPhedran will deal chiefly with the pathological conditions, the behaviour of the fluid, and the principles of treatment.

Drs. Mullin of Hamilton and Oldright of Toronto will refer principally to the diagnosis and treatment.

Dr. Eccles of London, who opens the discussion on Gynæcology, will discuss the nature and treatment of " Subinvolution of the Uterus." He will be followed by Drs. Temple of Toronto and Powell of Ottawa.

Dr. Stewart of Montreal, who opens the discussion on Therapeutics, will give a sketch of " The Present State of Cardiac Therapeutics."

Dr. Davidson of Toronto will read a paper on " The Use of Stimulants."

Dr. Cassidy of Toronto will read the report of the Committee on Hygiene.

The following papers are promised up to the present time :—

1. Dr. Wm. Osler, Philadelphia—
   " The Cardiac Relations of Chorea."
2. Dr. T. Wesley Mills, Montreal—
   " A Physiological Basis for an Improved Cardiac Pathology."

3. Dr. Archibald Malloch, Hamilton—
   "Report on Twenty Cases of Tracheotomy in Diphtheritic Croup."
4. Dr. William Gardner, Montreal—
   "A Year's Work in Abdominal Surgery."
5. Dr. Ryerson, Toronto—
   "Thalamic Epilepsy."
6. Dr. F. Buller, Montreal—
   "Headaches in connection with certain Ocular Defects."
7. Dr. Stirling, Montreal—
   "A few points in the Etiology and Treatment of Conjunctivitis."
8. Dr. W. H. B. Aikins, Toronto—
   "Detection of Typhoid Bacilli in Drinking Water."
9. Dr. R. L. MacDonnell, Montreal—
   "Loss of Knee-jerk in Diphtheria."
   "Aortic Aneurism—(*a*) Hitherto Unobserved Symptom.
   (*b*) The Results of the Treatment by Iodide of Potassium."
10. Dr. J. C. Cameron, Montreal—
    "Some Practical Points in Aseptic Midwifery."
11. Dr. Campbell, Seaforth—
    "Albuminuria of Pregnancy."
12. Dr. Sweetnam, Toronto—
    "Stricture of the Rectum—A New Form of Treatment."
13. Dr. Daniel Clarke, Toronto—
    "Neurasthenia."
14. Dr. Lapthorn Smith, Montreal—
    "A New Theory and Treatment of Diseases and Displacements of the Uterus."
15. Dr. Bruce Smith, Seaforth—
    "The Treatment of Pneumonia."
16. Dr. F. W. Strange, Toronto—
    "Malignant Disease of the Bladder."
17. Dr. Hingston, Montreal—
    "On the Removal of Naso-Pharyngeal Tumors.
18. Sir James Grant, Ottawa—
    "Renal Calculus and Cheyne Stokes' Respiration."
19. Dr. James Bell, Montreal—
    "Demonstration with the Cystoscope."
20. Dr. Dupuis, Kingston—
    "Removal of the Astragulus."
21. Dr. Wyatt Johnston, Montreal—
    "Puerperal Peritonitis."

THE INTERNATIONAL MEDICAL CONGRESS.

The Congress will be opened on Monday morning, Sept. 5th, in the presence of the President of the United States, when an address of welcome will be delivered by the Secretary of State, the Hon. Thomas F. Bayard. Addresses will also be delivered by Austin Flint of New York, M. Semmala of Naples, Unna of Hamburg, Fielding Blanford of London, Lutand of Paris, and Neudorfer of Vienna.

During the sessions of the International Congress at Washington, the *Medical Register* of Philadelphia will issue daily editions containing full reports of the general sessions and all the sections. The six editions will be mailed to any address for the small sum of 50 cents.

The following circular has been issued by the New York Bureau of Information :—

" The Ninth International Medical Congress will convene in Washington on Monday, September 5th. Washington is 200 miles from New York, six hours by railroad.

" Foreign steamers to New York land at New York or at Jersey City or Hoboken, opposite New York. The New York Bureau of Information have engaged a reception parlor in the Hoffman House, corner of Broadway and 25th Street. The Broadway car line, which is crossed by the car lines from the steamer landings, passes in front of the hotel.

" Rooms at the Hoffman House, which is conducted on the European plan, can be obtained through the Committee at a reduction of 25 per cent. One or more of the Reception Committee will be in attendance between 2 P.M. and 4 P.M. each day on and after August 20th. At other hours the clerk of the hotel will act for the Committee. Members intending to attend the Congress are requested to send their names in advance to the Reception Committee, Hoffman House, New York, so that the Committee can secure for them reduced hotel and railroad rates.

Medical Items.

—Sir James A. Grant, M.D., of Ottawa, will, we are pleased to learn, deliver the introductory lecture at the opening of the fifty-fifth session of the Medical Faculty of McGill University, on Monday, the 3rd of October, 1887.

—The hundred and fiftieth anniversary of the foundation of the University of Göttingen was celebrated during the second week in August. Numerous delegates from many European Universities were present.

—It has at last been decided to have a Board of Health for this Province. The following gentlemen constitute it:—Drs. Garneau, Lemieux, Rinfret and Pelletier. It is to be hoped that health matters will now receive that attention which they deserve.

—Prof. Hermann Munk, the distinguished physiologist in the Berlin Veterinary School, has recently received congratulations from all quarters on the completion of the twenty-fifth year of his work in that institution. Prof. Munk's work in connection with the localization of the cortical special centres is of great importance, and it is to be hoped that he may still live to work and to clear up one of the most difficult problems of physiology.

BROMIDIA.—Dr. W. H. May, of New York city, writes as follows: "I have had very successful results in the administration of bromidia in cases having their origin in disorders of the nervous system, such as cholera infantum, paralysis, insomnia, etc. *But I find it to be of special value in treatment of delirium tremens and the results of debauch;* it being retained upon the stomach and speedily controlling the most dangerous symptoms, and producing the desired calmness and sleep necessary when morphia and other soporifics have failed to do so, and thus rendering the disorder amenable to further treatment. I have also prescribed it successfully in the terrible state of nervous exhaustion due to opium habitues endeavoring to relinquish the habit. And, finally, as the result of experience, I pronounce it the hypnotic *par excellence.*"

CANADA

MEDICAL & SURGICAL JOURNAL

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Original Communications.

ADDRESS DELIVERED BEFORE THE CANADIAN MEDICAL ASSOCIATION.

By J. E. Graham, M.D., Toronto, President.

Gentlemen :—Before commencing my address, allow me to thank you most sincerely for the great honor you have conferred by electing me to the position of President of the Association. It is a distinction which I value very highly, and hope that I will in some slight degree merit the confidence thus reposed in me.

Last year our meeting was held in the ancient capital—Quebec ; a city whose associations are connected with the past rather than with the present or future. This year we meet in the enterprising and prosperous city of Hamilton. May we hope that from this date our Association will enter upon an era of greater prosperity and usefulness, and that we shall press on to greater achievements in the future. All will at once acknowledge that a great amount of good, honest work has been done in the past, but it is at the same time equally evident that we must put forth greater exertions in the future if we wish our Association to keep pace with the general progress of the Dominion.

A country such as this, which extends from ocean to ocean, and whose inhabitants are certainly not inferior to those of any other civilized nation in enterprise and culture, ought to have a larger and more active association. We must lay broader and deeper foundations, and show greater energy if we would build up an organization which will be an honor to our country.

At our last meeting arrangements were made for the intro-

duction of British Columbia, by the appointment of a Vice-President and Secretary from that Province. Some changes of programme will be inaugurated at this meeting, whereby it is hoped the proceedings may be made more interesting and instructive.

In order to foster the interests of this Association, a more intimate relationship should be established between it and those of a provincial character, and local societies should be established in those provinces where they do not now exist. I would suggest the appointment of a committee, which might confer with existing societies, and report to this Association as to the best means of maintaining and increasing its influence. A relationship such as exists between the great American Medical Association and the various State societies might form a ground-work upon which to build a scheme. While on this point, I will make the following quotation from the report of the Committee on Organization, and presented at the recent meeting of the American Medical Association in Chicago: "The three objects of paramount importance to be accomplished by medical organization are (1) the promotion of direct personal and social intercourse between physicians, by which mutual respect, personal friendship and unity of sentiment are greatly promoted; (2) the more rapid diffusion of medical knowledge, scientific and practical; and (3) the developing, unifying, concentrating and giving efficient practical expression of the sentiments, wishes and policy of the profession concerning its educational, legal and sanitary welfare, and the relations of the latter to the community as a whole." A committee giving due prominence to these considerations, and taking advantage of the experience of similar association in other countries, might form a scheme which, if acted upon, would be of the greatest advantage to the profession throughout the whole Dominion.

As an example of what might be accomplisned by greater unity I would mention suppression of the evil which we have to contend against in the matter of lodge or contract practice. No one who understands the kind of work will deny that the system is, as a general rule, one of great unfairness, so far as the medical profession is concerned. I speak from personal experience,

formed in the earlier years of my practice, as well as from knowledge since gathered, when I say that the physician does not, as a rule, get more than twenty-five to fifty cents a visit for lodge work. In many benefit societies the only real benefit derived by the members is the free medical attendance. Of course, many will say, we quite agree with you that the fees are too low and that the system is bad, but how are you going to prevent it? Have we ever, as a united profession, tried to amend it? Have we an organization sufficiently strong to attempt to cope with the difficulty? I think not. If these were the only questions to be dealt with it would be worth all the trouble of making a thorough organization. Then there are the general questions of fees, of ethics, and others of vital importance, about which we have few laws and few methods of enforcing the law.

It has been suggested that in future our meetings should be held only in those cities which are easily accessible to the majority of the members. We are afraid that if the meetings were thus held only in central places the Association would, to a certain extent, lose its national character. If, however, we met only in such cities or provinces as already possessed active local societies the same object would be attained. If the profession of any city or province has sufficient energy and enthusiasm to maintain an active local society there would be no danger of failure in case this body held its meetings in that city or province.

We may safely say that we have in this Dominion a profession not inferior in average ability and culture to that of any country in the world. The examination which was established some years ago by the Ontario Medical Council, and the methods of registration adopted by other provinces, have prevented to a large extent the entrance of inferior merit into the profession. We have thus a better average than would otherwise have been the case.

Is there that feeling of unity among medical men in this country which ought to exist? Is the enthusiasm for the study of science of medicine such as we would like to see? I may be wrong, but I sometimes think that in these points we are not on a par with those of many other countries.

There is no better method of improving the profession in these respects than by the formation of active local societies, so that practitioners may be more frequently brought together. Misunderstandings will be then explained and jealousies removed which would otherwise separate men for years. In these days, when unions and conventions are of such frequent occurrence in the various trades and professions, we lose much by want of organization and want of unanimity.

In looking to the future, there is another point which must be noted and provided for—viz., the formation of specialties. Whatever diversity of opinion may exist with regard to the ethics and utility of specialists, one thing is certain, they have come to stay. The public readily appreciate the fact that a practitioner who devotes himself to one department will in all probability be more capable in that department than one who goes over the whole field of medicine. It is also a fact that many local diseases are relieved and cured more readily and certainly by specialists. It has been the opinion of some that specialism might be developed in smaller cities and towns to a much greater extent than is at present the case. For instance, in a town where there are, say, six practitioners, each one, while attending to his private practice, which would, of course, be of a general character, might at the same time devote himself particularly to some special branch of the profession. An arrangement might be made that in all surgical cases requiring consultation or assistance the one who devotes himself to surgery should be called in; in obscure internal diseases the physician might be summoned; in obstetrical and gynæcological cases the gynæcologist, etc. This is an arrangement which the public would soon learn to understand and to appreciate. A system similar in character has been for some years carried out in some cities of the Dominion with very great success. The arrangement, in order to be successful, would require the strictest honor and integrity on the part of those who entered into it.

My predecessor, Dr. Holmes, in his excellent address, which was listened to with much pleasure in Quebec last year, made numerous suggestions for the future advancement of the pro-

fession in the Dominion. We hope soon to see many of these suggestions acted upon. The profession in Ontario have already made the preliminary arrangements for the establishment of an institution which will be of incalculable benefit to the medical men of the Province, viz., a Medical Reference Library. The joint committee of the Toronto Medical Society and the Ontario Medical Association have already made such advances that we can confidently promise the formation at an early date of a library of some thousands of volumes, which we hope will be largely used by members of the profession. Arrangements will be made whereby books may be sent, on certain conditions, to any part of the Province. It is also contemplated to have the library constantly open, so that members of the profession visiting Toronto may find a home and a place where they can see the latest medical literature.

This is still a young country, and there are many institutions which must be established to place us on an equal footing with older and wealthier nationalities. The fact of our being young should not prevent us thus early laying the foundations of such as will be of the greatest benefit to future generations.

The past year has not been marked by any great discovery in our science. A steady progress has, however, been made in the various departments of medicine and surgery. The confirmation of previous discoveries and the advancement of the limits of our knowledge has been the work of our scientific men.

In abdominal surgery, great advances have been made.

In bacteriology, discoveries are recorded which promise to assist very much in explaining away the many difficulties which constantly beset us in the study of internal disease.

I now turn to a sad portion of the history of the past year—the loss which this Association has sustained by the death of some of its active members. Among these I would mention the name of our late fellow-member, Dr. John Fulton. He was one of our most regular attendants, and always took an active part in everything which pertained to the interest of the Association and of the profession at large. His comparatively early death, together with that of others who have recently been cut off

(Drs. McBride and Hudson of New York, Drs. Fagge, Moxon and Mahomed of London, Eng.), has given rise to the question as to whether there is anything in our modern professional life which causes such early mortality. I have therefore determined to make a few remarks on over-work and its consequences as exhibited in the lives of our medical men.

In those days of intense activity we find frequent evidences of the effects of over-work in the members of the varions professions and callings. In each profession, however, there are certain peculiarities, or peculiar methods of work, which are especially injurious to the human system. Of these, so far as they affect the medical profession, we wish to speak.

The victims of over-work in our profession may be divided into three or four classes. The first class may be illustrated by the following example :

A young physician enters into city practice, and in his eagerness to succeed rapidly engages in lodge and other contract practice. In this way he assumes at once work and responsibilities which ought to belong to riper years. Often, too, he acquires new patients by a spirit aggressive, and sometimes offensive, to his seniors. If he is a conscientious man he will become, more or less, intensely worried about his patients. He will constantly meet with cases entirely new to him, and will be in doubt as to the correct treatment to pursue. He is, at the same time, under the disadvantage of being considered a young man, and they who contract for the services of a physician are generally the most exacting and the most unreasonable. They often make remarks which are exceedingly galling to a sensitive nature. With this kind of practice there is always a good deal of night-work. The patients are usually careless whether they send in the day or night so long as they have nothing extra to pay. If the young physician, as is often the case, falls into a large midwifery practice at the same time, his lot of drudgery—I was almost going to say slavery—is complete. For a few years he does not feel the strain, but sooner or later his constitution gives way. He is frequently subject to severe headache and palpitation of the heart. Symptoms of dyspepsia show

themselves. He finds that he cannot endure night-work so well, and feels a general want of strength. If he is wise he will either give up contract practice or else take a long rest.

A second class of cases are made up of those who early acquire a large country practice. The instances of premature decay are not so frequent in this class, unless the person becomes addicted to stimulants. Although there may be greater fatigue connected with country practice, there is the compensating advantages of pure air and less worry, as the number of patients under treatment is necessarily fewer and expenses of living are less. Many, however, have in the meantime assumed the responsibility of supporting a family, and may not be in a position to give up any of their work. Sometimes they resort to stimulants. This pernicious practice can only have one result, sooner or later—utter and irretrievable ruin. In other cases, the physician works bravely on, and is suddenly cut off by a pneumonia or by a typhoid fever, or some other illness, which could easily have been withstood if the system had been in a sound and normal condition at the commencement.

The third class, in which we hear of the saddest effects of overwork, is composed of those who settle in a large city, and who wish to assume the foremost positions as consulting physicians and surgeons, and to become eminent as teachers or authors.

A young man of this character, with little means, settles in a large city. He sets before him the following tasks: (1) He must make a living from the first. To do this he probably undertakes to teach students in grinding or quiz classes. This, when largely engaged in, is exhaustive work. He also frequently does the night work of an older practitioner, and loses as much rest as one in large practice. (2) He must acquire a reputation as a practitioner. For this purpose he becomes connected with as many hospitals and dispensaries as possible, spending several hours each day in a close and unhealthy atmosphere. (3) He must acquire a reputation as a teacher. For this end he, if possible, becomes connected with a medical school, where he is expected by the older heads to do an enormous amount of work for little or no pay. (4) His tastes and ambition lead him to

become an original investigator of disease, and he has the laudable design of adding to our stock of medical knowledge. To do this he pursues some line of clinical or pathological investigation—a work which may be exceedingly interesting, but which must be carried on largely at night, thus robbing the enthusiast of hours which should be devoted to sleep.

Then he desires a competence for himself and family. To some the fatal idea comes of becoming wealthy. As this cannot be done in the slow way of ordinary practice, they engage in speculation, and we all know how fortunate doctors are when they enter that business.

There are a few of extraordinary constitution who can bear up for many years against such a heavy strain, but they are few indeed. From constant and unremitting work symptoms of brain tire show themselves. The physician complains of frequent headaches, becomes irritable, suffers from insomnia, and finds he is unable to do the usual amount of work; his memory fails, especially in details; bodily weakness, indigestion, inactivity of the liver appear to warn him of his doom in the near future unless he changes his mode of life. Finding himself unable to work he takes a short holiday, feels much improved, and returns to labor in the same way as before. Organic disease may now become developed. The heart becomes weak and irregular. Atheroma of the arteries and consequent apoplexy may lay him aside or may end his career. Bright's disease may show itself. If none of these organic diseases present themselves, the unfortunate may be cut off by some acute disease. Instances are not rare of degeneration of the nerve centres, with consequent melancholia and suicidal mania. This is not a fancy sketch, but one which could be substantiated by many instances. I will mention but one, that of the late Dr. Golding Bird. Dr. Routh, in his book on over-work, gives the following account of an interview with that distinguished man: "I well remember a conversation I had with the late Dr. Golding Bird a few weeks before his death. He was then in the zenith of his popularity, and recognized by all as one of the ablest of our London physicians. I called upon him one morning with a relative to consult him.

Several other medical men preceded me. His rooms were full, and I had to wait three hours ere I could obtain admission to his study and consult about the case. I congratulated him on his success in practice. 'Yes,' he said to me, 'you are right; but I wish, nevertheless, to make your remark a text for a little parting advice. You see me at a little over forty in full practice, my rooms full, and making my several thousands per annum' (I think he said seven), 'and if I die to-morrow I do not leave as many hundreds to my family. All this I have done by sheer perseverence, unceasing hard work, and no holiday. But I am to-day a wreck. I have fatal disease of the heart, the result of anxiety and hard work. I know I cannot live many months, and my parting words of advice to you are these, never mind at what loss, take your six weeks' holiday. It may delay your success, but it will insure its development. Otherwise you will find yourself at my age a prosperous practitioner, but a dying old man.' Six months after this conversation he had put off this earthly tabernacle."

It is my opinion that in such cases it is not the scientific labor which is the cause of trouble, but it is the worry, anxiety and fatigue of family practice, in addition to the scientific work. We all know from personal experience how exhausting it is to visit, day after day, upon a serious case of illness, especially if the patient is a near friend, or one of distinguished position in society. The amount of vital capital lost in these cases cannot be estimated. It is a singular fact that the large majority of cases of over-work occur among consulting physicians. Surgeons and specialists do not suffer to the same extent. The reason of this is not far to seek. The amount of brain-work done by the physician, as a general rule, is very much greater than that done by the surgeon or specialist. The work of the latter, in most cases, is largely of a mechanical nature, and a great portion of their time is spent in manipulation. It is otherwise with the physician. Let us for a moment follow him in his every-day work. He must first attend to his correspondence. This is usually no slight task, especially if he answers all the letters sent by brother practitioners throughout the country asking for

advice in the treatment of certain detailed cases. I hope you will pardon the digression while I make a few remarks on this point. Very often, in fact in the majority of cases, these letters for advice are sent and an answer expected without fee. To read the detailed history of a case, and to give an answer of any value, takes up the greater part of an hour, and incurs quite as much labor as any other consultation. A specialist in Toronto, who is very conscientious in answering these letters, has informed me that the task frequently requires him to remain at his desk until after midnight. The late Dr. Darwin Hudson of New York, when I was last there, complained bitterly of the same difficulty. So much labor ought not to be imposed without remuneration. In case the patient is poor and unable to pay, the consultant or specialist would always be glad to be of any assistance without any reward. In many instances, however, we believe the patients are well able to pay, and the attending physician need only state his intention of consulting by letter, and ask for the fee to have his wishes acceded to.

We will now return to our subject. After the physician has finished his correspondence he is ready to receive patients. Together with a number of minor cases he may have two or three of difficult diagnosis, which may bring into exercise all his resources. He will write a detailed history of each case, and, perhaps, afterwards write his opinion and treatment in a letter to the attending physician. When he has finished a morning's work of this kind he is frequently so exhausted as to wish for the afternoon to rest. But he must then go to the hospital and, perhaps, for one or two hours he examines and tries to make clear to a class of students cases quite as difficult as those of the morning. He then visits his private patients. (On this continent we have yet very few purely consulting physicians.) This may occupy his time until six or seven o'clock. After dinner he works at his lectures or other literary matter, and is at the same time harassed by numberless interruptions until nearly midnight. Then he may, like all medical men, be called up at night, or, if allowed to sleep, wakes up perhaps tired to continue his ceaseless toil. Is it any wonder that so many break down under such a strain.

The development of specialties has also added to the work of the physician. He cannot act simply as a distributing centre, sending one patient to this specialist and another to that; but he must learn to diagnose and treat many local diseases himself. This entails upon him the necessity of acquiring a knowledge of most of the specialties; and now that familiarity with bacteriology is added as an almost necessary accomplishment, the field is too vast to contemplate.

Now what are the lessons to be learned from all this?

1. That the rapid acquirement of a large and lucrative practice is often a great misfortune. It subjects the physician to the enmity of his older calleagues, often with and often without reason. It imposes burdens under which many fall, and it robs him of a happy and useful old age.

2. In the case of those who are ambitious to acquire professional favor for scientific work, the lesson is to avoid over-work. One ought not to try to become a noted physician and a rich man at the same time. It is a rare thing for a physician to amass a fortune: too rare to make it worth one's while to attempt it.

A very important lesson is to notice the first admonition of a general break-down, and to act upon the warning given. One of the best remedies is a prolonged holiday. This serves the purpose of giving the mind a complete rest. A long holiday is but of temporary benefit; the work must be cut down at home. Eight hours' sound sleep must be had at any cost. If the rest is broken by night calls it must be made up in the morning. Some part of each day should be devoted to recreation. These are difficult rules to follow out in practice, but they are quite possible when a determined stand is taken.

Those who habitually over-work must remember that they are thus defeating the very object of their ambition. In the medical profession the best work should be done between 45 and 55. The late Dr. Flint did not issue his celebrated work on "Practice of Medicine" until he was over 50. We know from observation that medical men in health are at their best during those years. This being the case, it should be the aim of an ambitious

physician, above all things, to maintain his health and vigor unti he can reap the fruit of his earlier labor.

The most satisfactory, the most lasting, and the best work is done by those who are careful not to overtax themselves, but who so arrange their business as to take that recreation which the body so much needs.

I would not close this address without referring to the opposite condition : the spirit of apathy and inactivity which blights many physicians' lives. It is far better to live an active life of usefulness, even if one should be the sooner cut off, than to pass through this world as a miserable drone, of little use either to the family or community.

Our active professional and business men, those who shape our destinies as a nation, frequently exhibit one trait of character which might almost be considered a failing, viz., the expectation of immediate results from their labor. This is particularly noticeable in our western provinces and territories. We work hard, and if in a few years the reward of our toil is not within our grasp we chafe under the disappointment, become discontented, and determine either to change the political character of our country or remove to lands where fortunes are said to be more rapidly made.

We have a vast territory, but one in which the material obstacles to rapid advance are great. These very difficulties ought to develop in us qualities of patient endurance and steady perseverance—qualities which will ultimately make this Canada of ours one of the greatest nations of the world.

Let us as physicians, not under the influence of haste and worry, but steadily and perseveringly, work in building up our own profession, so that in all matters which pertain to excellence we may be equal to that of the foremost nations.

A YEAR'S WORK IN ABDOMINAL SURGERY.*

By William Gardner, M.D.,
Professor of Gynæcology, McGill University; Gynæcologist to the Montreal General Hospital; one of the Vice-Presidents of the British Gynæcological Society.

Mr. President and Gentlemen—During the last working year I have opened the peritoneal cavity 38 times. Of these 35 were abdominal sections, the others were total vaginal extirpations of the uterus, and I have included them in the list because the important element of peritoneal section obtains equally in them with the abdominal cases proper. The list I submit includes an unusual variety of cases and conditions, and I venture to think that its recital may be of some interest and furnish material for a useful discussion. Every operation was done in a private hospital, with the most scrupulous attention to cleanliness of the hands of operator, assistants and nurses; and of instruments, sponges and ligatures, but without the use of any antiseptic whatever except to the field of operation—abdominal wall or cavity of the vagina,—where a 1–1000 sublimate solution was always freely used after thorough scrubbing of the part with soap and water. The after-treatment was entirely under my own watching and control, a circumstance to which I attribute great importance in determining the results obtained. The following is a brief classification of the cases with results:

		Recoveries.	*Deaths.*
Ovariotomies	16	16	—
Hysterectomies	2	2	—
Removals of Uterine Appendages	11	10	1
Abdominal section for opening Pelvic Abscess	2	2	—
Puerperal Peritonitis	2	—	2
Abdominal section for Retro-Peritoneal Cyst	1	1	—
Exploratory Operations	3	2	1
Total Vaginal Extirpation of Uterus	3	3	—

Of the ovariotomies several were of exceptional interest. In two there was twisting of the pedicle, giving rise in both to violent pain, and in one of them to severe peritonitis. In the

* Read in abstract before the annual meeting of the Canadian Medical Association, at Hamilton, Sept. 1st, 1887.

latter case, a patient of my friend Dr. Molson, the pedicle was twisted three times; the walls of the cyst, a dermoid, were almost black; adhesions were universal; the second ovary being enlarged and cystic, was also removed; the cavity was washed out and a drainage-tube employed for five days. The uterus was found to be somewhat enlarged, soft and vascular. A suspicion of possible pregnancy flashed across my mind, but the idea was not seriously entertained at the time of the operation. The patient recovered without a bad symptom. Three months afterwards I had an opportunity of examining her, and found her undoubtedly pregnant to about five months, gestation persisting in spite of the rotation of the tumor, with strangulation and consequent severe peritonitis, a double ovariotomy with washing out and drainage, the glass drainage-tube lying behind the uterus and in contact with its posterior wall for five days. This is my second ovariotomy during pregnancy; the first also recovered without a symptom worthy of note. The patient was delivered at full term just six months after the operation. Both mother and child are alive and well to-day.*

The other twisted pedicle case was sent to me by Dr. Vaux of Brockville, and was that of an unmarried woman of 25. She had for several weeks suffered severe pain, unrelieved by morphia in full doses. The twisted pedicle was enormously thickened from œdema the result of obstructed circulation, and the cyst wall much discolored; there were papillomatous growths from its interior, and hemorrhage into its cavity. Recovery was rapid and complete.

In both cases the tumors were small, as is usual in axial rotation, and they are good examples of the many untoward accidents to which all ovarian tumors are liable, and furnish strong arguments in favor of the plea for early ovariotomy.

Another of the series was in a hale old lady of 68, whose recovery from the conditions incidental to the operation was absolutely without any event worthy of note, except slight cystitis, but who on the second day developed pleurisy, which soon became double, with most alarming symptoms. The pulse rose

* See Canada Lancet, February, 1887.

to 180, and was irregular and unequal. She ultimately made a perfect recovery.

In two of the cases the tumors were sarcoma, one being sarcomatous degeneration of a dermoid cyst. In both there were adhesions to intestine and every other structure within reach. In both, washing out and drainage were resorted to. They were desperately severe operations, but both recovered. In one the curious symptom of polyuria developed in the third week, and for several days six to seven pints of urine were secreted. There was great thirst and enormous appetite. These symptoms had completly disappeared before the patient was discharged.

In one case—an enormous tumor—the patient had a successful pregnancy and uneventful delivery at full term, after the tumor had attained considerable size, and she had been tapped four times, once at the interval of a fortnight before her confinement.

In nine of the sixteen cases the condition of the second ovary was such as in my opinion to demand its removal. Such conditions were marked enlargement and cystic disease. The question of the necessity of removing the second ovary under these circumstances has given me some anxiety in young subjects, as it seems to me it must to every conscientious surgeon. So far as I know there is no known method by which to diagnose on the operating-table a condition comparatively harmless, and which may not prevent successful ovulation and conception from one which is the commencement of a disease that must ultimately demand operation. It is quite certain that all slightly enlarged and cystic ovaries are not commencing ovarian tumors. In a woman who has already attained or is nearing the menopause, the second ovary when in such a condition, or, according to some surgeons, even when apparently perfectly healthy, must always be removed, knowing as we do its proneness to the disease which has required operation for the first. But it is far otherwise in the young woman, married or not, from whom by a double ovariotomy, it may be, needless, all possibility of realization of the much cherished hope of maternity is for ever re-

moved. I confess that for myself the question is as yet unsolved. All recently published experience is quite in accord with my own that the double operation does not in the least add to the dangers. It may be remembered that Sir Spencer Wells' statistics seemed to indicate an opposite conclusion.

The operation of removal of the appendages is one, now-a-days, of even more interest than ovariotomy, because more recent and inasmuch as it involves certain questions not yet quite solved to the satisfaction of everybody. I can honestly say that some of my cases have given me more satisfaction than anything else in my work during this last, as in former years of my work. The list comprises examples of almost all the conditions for which the operation is ever necessary. Such were pyosalpinx, hæmatosalpinx, pelvic hæmatocele, enlarged and cystic ovaries, and cirrhotic very small ovaries, with and without adhesions from previous pelvic peritonitis. Some have been restored in a few weeks from a life of more or less complete invalidism to health, activity and usefulness. Others have been slow in recovering from the operation, because of secondary inflammation about the pedicle. In others still, nothing could have been more favorable than the after course *quoad* the operation, but the morbid condition of nerve centres which is in some the result of long-continued suffering and habits of invalidism continued for several months to manifest itself in the persistence of pain in the regions whence the diseased appendages were removed, or in some distant reflex symptom, most commonly headache. The single death of the series was from hemorrhage, and it is the only death in the list of which I have any reason to be ashamed, as it might have been prevented if I had been called to the patient in time. As it was, I reached her bedside nine hours after the operation, when she was moribund. The peritoneum was found full of blood, but the ligatures held fast. The exact source of the blood flow was not found, but it was doubtless either a rent of some part of the broad ligaments or one of the suture needle punctures. The operation was a perfectly simple one for cystic ovaries without any adhesions whatever. Some of the operations were the most difficult I have ever had to

encounter, by far more difficult than any but the most difficult ovariotomies, and I think that without washing out and the drainage-tube some of them had scarcely a chance of recovery. It is in such cases, perhaps, more than in any other in the whole range of abdominal surgery that the value of experience becomes apparent in the separation of adhesions and recognition by touch of the educated finger of the parts which must be removed. This all important part of the operation must be done solely by the sense of touch, and in some of my cases the whole operation was done through an inch-and-a-half incision.

Of the miscellaneous cases, the following one of exploratory incision is of exceptional interest: A tumor-like mass of doubtful nature remained after the symptoms of a severe attack of peritonitis in a delicate girl of 30, had subsided. The patient continued to vomit and suffer from great pain and difficulty in defecation. She was much emaciated. On opening the abdomen the peritoneum was found studded in numerous places with tubercle. This was verified by microscopic examination of a portion removed. The mass described was found to consist of the small intestine densely matted together in its own coils and adherent to everything around. The mass was somewhat separated from its surroundings, returned, and the abdominal opening closed, with a drainage-tube in the pelvis. She recovered easily and rapidly from the operation, and for a time was much relieved of her symptoms. For a few weeks she was able to dispense with morphia, which she had taken daily up to the time of operation, and the bowels acted spontaneously and without pain. She survived the operation six weeks, dying of exhaustion. This is my second case of tubercular peritonitis simulating ovarian tumor. The other case will be found recorded in the CANADA MEDICAL AND SURGICAL JOURNAL for June 1885.

In the two puerperal cases the patients were almost *in extremis* and the operations were done as a last resort, but without avail in influencing the symptoms. In both the abdominal cavity was opened, washed out, and a drainage-tube inserted. The conditions found were those of intense general peritonitis, with copious exudations of lymph and pus, and infiltration of ovaries,

tubes and cellular tissue with inflammatory exudation. In neither was there any encysted collection of the products of inflammatory action or evidence of disease in or about the appendages from which the general peritonitis might have started. In one of the cases there had been persistent right iliac pain during the pregnancy, and the symptoms of the fatal illness began by an aggravation of this pain. These facts justified Dr. George Ross and myself in opening the peritoneum in the hope that some condition within the power of surgery to relieve might be found. Puerperal fever was, however, prevailing, and the result of the exploration confirmed the idea that these cases were of septic character. Both patients died within twelve hours of the time of operation, but in neither was death in the least hastened by the operation, so far as an opinion could be formed from the symptoms present when the operation was undertaken, and in one the agonizing pain was at once relieved, an effect which morphia had failed to produce.

The results of exploratory abdominal section for peritonitis, a very recent development, have already proved beyond doubt that many lives may be saved by an operation which in competent hands does not in the least lessen the patient's chances. That peritonitis in the lying-in woman not rarely is of a character and has such an origin that we can occasionally thus save a life has already been amply demonstrated by the experience of Lawson Tait and John W. Taylor of Birmingham, and others. One of Mr. Tait's successful cases I had the good fortune to see and assist at during my stay with him last summer. The kind of case in which we have the best reasons to anticipate success are those of previously existing, perhaps latent disease of ovaries or tubes, such as abscess of the ovary or pyosalpingitis, roused to activity by the process of parturition, and leading, it may be, to general peritonitis. That such conditions not rarely exist was shown by Dr. Grigg, of the Queen Charlotte Lying-in Hospital, in a paper read before the British Gynæcological Society, based on the conditions found in certain autopsies. Other conditions in which the operation is indicated are encysted collections of the products of inflammation in the peritoneum or pelvic cellular tissue. I

believe the time has come when it may with perfect justice be said that in a suitable case of puerperal, pelvic or peritoneal inflammation in which life is threatened, the practitioner is bound to do the operation or have it done for him, and so will save the valuable life of many a wife and mother.

The two hysterectomies recovered, both without any bad symptom. In both I adopted, as in all my previous hysterectomies, the extra-peritoneal method of dealing with the pedicle, clamping it with Koeberle's serre-nœud. It is possible, and much to be desired, that "a more excellent way" (as Keith has it) may yet be devised, but that it has not yet been attained is amply proved by a comparison of the experience of Keith, Bantock and Tait by the extra-peritoneal method, with the published results of Schroeder and Martin in Germany by the intra-peritoneal method. If ever induced to try the latter method, I shall certainly combine it with drainage of the Douglas' pouch through the vagina after Martin's method.

In 19 of the 35 abdominal sections the drainage-tube was used. It was employed in all cases where adhesions were extensive and oozing surfaces remained, and when washing out was resorted to. In the latter case much sponging to remove the water used was thereby saved, as it was sucked out through the drainage-tube. Of all improvements in the technique of abdominal surgery next to the intra-peritoneal ligature, none has so much conduced to success as the use of the drainage-tube. By its employment operations may often be much shortened and the peritoneum saved much labor in the absorption of effused blood, and the patient's chances of recovery correspondingly increased.

Experience in the use of the drainage-tube is an important factor in the amount of good to be gained by it. In the experience of other surgeons I had learnt much as to the kind of case in which to use a drainage-tube, but not much as to the length of time it must be allowed to remain in the wound. I had never seen any definite rules on this point laid down till I read the remarks of my friend Dr. Bantock in his paper on "A Hundred Cases of Abdominal Section" published in the London *Lancet* a few months ago. It is possible to remove the drainage-tube much too soon, and I am sure I have seen ill results in my own

practice from this. Since reading Dr. Bantock's paper I have followed his instructions on this point, and with, I believe, signal advantage. These are, in the main, to the effect that the drainage-tube ought not to be removed till the whole amount of secretion that can be removed from it in twenty-four hours does not exceed one drachm of amber-colored serum.

Next to improvements in the technique of abdominal surgery the after-treatment of cases is of prime importance as affecting the patient's prospects. When in Europe last year I found that Mr. Lawson Tait and Dr. Bantock held very strong opinions on certain questions connected with the management of such cases after operation. One of the principal points on which they agreed is the advantage of the avoidance of opium entirely. During the last twelve months I have uniformly followed this example with the exception of one or two instances, and a comparison with my previous experience has thoroughly convinced me that they are right. As a rule, the pain after an abdominal section is mainly at the needle punctures of the abdominal wall, and almost invariably ceases in twelve hours. A dose of opium or morphia will, it is true, relieve the pain, but it dries the secretions, makes the patient clamorous for drink which it is so important that she should avoid for thirty-six hours, it quiets the bowels and so favors accumulation of flatus, and distension, whereas it is all-important that the peristaltic action of the intestines should be kept up, not only to carry off flatus, but to prevent adhesion of coils of intestine to the pedicle, to raw surfaces whence adhesions have been separated, or to the inner aspect of the abdominal wound, which may lead to obstruction. It is more than probable that most of the deaths after abdominal section attributed to peritonitis in recent years have been due to obstruction.

In my work during the year I have given no opium, and invariably, immediately on the appearance of distension, pain or vomiting, I have given enemas and purgatives with the most signal advantage. I am convinced that in my own experience I have thus seen lives saved, besides a vast diminution of the trouble and difficulty in managing the cases afterwards.

I append the following table of the ovariotomies included in the series :—

OVARIOTOMIES.

NAME, &c.	ORDINARY ATTENDANT.	HISTORY AND SYMPTOMS.	LOCAL CONDITIONS.	OPERATION.	RECOVERED OR DIED.	SUBSEQUENT HISTORY.
E. T., aged 31, unmarried.	Dr. Bingham, Williston, Vt., U.S.A.	Menses began at 14; always regular. General health good. First noticed enlargement 3½ years before operation.	General abdominal enlargement; wave fluctuation, bulging in flanks, flat in front; bowel note not distinct in flanks; girth 36 in.; uterus retroverted, prolapsed, and slightly mobile.	Two and a-half inch incision; no adhesions; parovarian cyst right side, limpid fluid, favorable pedicle; ovary and tube spread out over cyst wall; operation complete in 25 minutes.	Recovered.	Perfect health.
M. B., aged 69, married.	Dr. Hill, Ottawa.	Mother of several children. Menopause many years ago. General health perfect. No symptoms, but tumor first noticed 1½ years ago.	Fluctuation in areas; great enlargement; no tenderness; uterus pushed forward, lying behind pubes.	Multilocular ovarian cystoma; few slight anterior adhesions; tumor is of right side. Severe attack of double pleurisy with rapid pulse, reaching 180, rapidly reduced by digitalis; rapid recovery.	Recovered.	Slight cystitis for a few weeks; two months after operation, a smooth, tender swelling in region of pedicle slowly disappear'd. Otherwise well.
M. C., aged 51, married.	Referred by Dr. R. P. Howard, Montreal.	Menses began at 17; married 30 years; one child 25 years ago; menses ceased eight months ago. Pain in left lumbar region and first signs of tumor one year ago, rapid growth; three months before operation measured 42 inches. Was tapped, 2½ gallons removed, in Burlington, Vt.	Fluctuating tumor; clear note in flanks; no firm areas; 35½ in.; uterus retroverted; moveable 3½ inches by sound.	Unilocular cyst of left ovary; no adhesions; very broad pedicle; ligatured in sections; a small dermoid cyst attached to base of large tumor.	Recovered.	Perfectly well.

OVARIOTOMIES—(*Continued.*)

NAME, &c.	ORDINARY ATTENDANT.	HISTORY AND SYMPTOMS.	LOCAL CONDITIONS.	OPERATION.	RECOVERED OR DIED.	SUBSEQUENT HISTORY.
C. M., aged 53, unmarried.	Dr. James Bell, Montreal.	Menses began at 12; ceased four years ago. Never pregnant. Is much emaciated and sallow; severe abdominal pain, rectal tenesmus and pain. Six months ago first noticed lump in left iliac region. Steady increase of size, with pain. Full doses of morphia for six weeks.	Nodulated, firm tumor springing from left side, extending from pubes to within 2 in. of lower ribs; in parts elastic feel; uterus moveable; marked induration in posterior cul-de-sac and recto-vaginal septum: girth of abdomen 34 inches.	No adhesions: favorable pedicle: multilocular cyst of left ovary, jelly-like contents. In Douglas' pouch the induration felt, evidently malignant disease of the rectum.	Recovered.	Recovery from operation rapid and perfect; great relief from pain; no morphia needed for some weeks. Died three months after from cancer of rectum.
M. B., aged 29, married.	Dr. M. C. McGannon, Brockville, Ont.	Menses began at 11; always regular, profuse. Married three years; one child 22 months ago. First noticed tumor in left iliac region 12 months ago, steadily increasing: dysuria last 18 months.	Abdomen enlarged, 32½ inches; uneven fluctuating areas; uterus retroverted, prolapsed and moveable.	Multilocular cystoma of left ovary: omental adhesions, grumous contents: favorable pedicle. Three ligatures to omentum; right ovary size of hen's egg and cystic, also removed.	Recovered.	Perfect health.
M. L., aged 39, married.	W. G.	Menses began at 15. Married 14 years: five pregnancies, last 11 months ago. Menses now regular. First noticed tumor Sept. 1884, on left side. Tapped four times, once during last pregnancy two weeks before labor.	Abdomen very large, 45½ inches, uneven, fluctuating over large areas; œdema of hypogastrium: uterus retroverted, prolapsed, and moveable.	Large quantity peritoneal fluid; multilocular cystoma left ovary; omental adhesions; favorable pedicle; right ovary cystic and enlarged, also removed.	Recovered.	Perfect health.
H. S., aged 30, married.	Dr. Beckstead, Lisbon Centre, N. Y.	Menses began at 16; at first scanty, of late profuse and protracted leucorrhœa; pain in hips. Never pregnant. In Jan. '85, diagnosed a pelvic ovarian tumor. No abdominal enlargement till Jan. '87. Rapid enlargement.	Elastic, uneven condition of abdomen, 35 in., fluctuates in areas. Uterus retroverted; sensitive, moveable body felt in Douglas' pouch; tapped two months before operation.	Multilocular cystoma left ovary: no adhesions; favorable pedicle; right ovary size of pullet's egg and cystic, also removed.	Recovered.	Perfect health.

J. B., aged 18, married.	Dr. Ball, Stanstead, P.Q.	Menses began at 11; always regular. Married two years, never pregnant. Noticed enlargement four months after marriage. A good deal of pain during last year. Twice tapped during last three months.	Uniform enlargement; general fluctuation; distinct wave. Uterus retroverted, prolapsed. Tumor distinct in pelvis; girth 40½ inches.	Multilocular cystoma of left ovary; universal anterior parietal adhesions. Three ligatures to bleeding points; drainage-tube.	Recovered.	Perfect health.
M. C., aged 25, unmarried.	Dr. Vaux, Brockville.	Menses began at 17; is quite regular. Good health till two years ago, then began to have occasional attacks of severe pain in right iliac region; this pain almost constant last five months; three months ago tumor first noticed in right iliac region; pain at times very severe, not relieved by morphia; girth 25½ inches.	Tumor is tense, elastic, insensitive, moveable, entirely below umbilicus: uterus anteflexed, pressed down in front of tumor.	No adhesions; cyst wall dark colored; pedicle twisted very thick and œdematous, size of adult's head: contents chocolate-colored fluid; papillomatous growths from interior of cyst, which is unilocular, and of right ovary; left ovary a mass of cysts and of size of pullet's egg, also removed; oozing from pelvis; drainage-tube.	Recovered.	Perfect health.
M. D., aged 29, married.	Dr. James Bell, Montreal.	Menses began at 13. One child 1 year old; suckled ten months. Menses returned at six months; regular till seven weeks before operation. First noticed a lump in right iliac region 3½ mos. ago; steady growth; much pain, irritation of bladder, constipation, pain and difficulty in defecation; great wasting, weakness; pulse 90–100: in bed for 2 months.	Irregular, nodular, sensitive tumor extending up right side of abdomen from pelvis to hypochondrium, very slightly moveable; in places elastic, semi-fluctuating; floor of pelvis indurated; os uteri pushed forwards and to right side; portio-vaginalis obliterated by collar-like induration around it.	Desperately severe operation; adhesions to intestines, omentum and to whole of pelvis; lower part of tumor a friable mass, in which neither ovary nor fundus of the uterus is distinguishable. After enucleation of tumor, the operation finished by clamping cervix uteri and bringing it out at lower angle of abdominal incision. The tumor, a sarcoma with dermoid elements. Washing out and drainage.	Recovered.	Recovery was fairly rapid, interrupted by septic fever for a few days. In third week polyuria, 6 to 7 pints urine daily; great thirst; enormous appetite. Returned home 6 weeks after operation; general and local conditions excellent; 2 months later signs of recurrence; a month later much emaciated, sinking fast; recurrence of growth, fæcal fistula at lower end of abdominal incision; is dying.

OVARIOTOMIES—(*Continued.*)

NAME, &C.	ORDINARY ATTENDANT.	HISTORY AND SYMPTOMS.	LOCAL CONDITIONS.	OPERATION.	RECOVERED OR DIED.	SUBSEQUENT HISTORY
Mrs. S., aged 31, married.	Dr. Molson, Montreal.	Began to menstruate at 19. Married eight years; four pregnancies to full term, last 14 months ago, suckled 10 months; menses returned after weaning; four months ago first noticed a lump in left iliac region; three weeks ago, after a walk, sudden severe pain, vomiting, fever, retention of urine, constipation; full doses of morphia up till time of operation.	A thin-walled, fluctuating cyst size of a child's head, quite tender; uterus fixed, retroverted, quite tender.	Parietal, pelvic and omental adhesions; a dermoid cyst of left ovary; long, slender pedicle, twisted three times around its axis; contents creamy, coagulate solid; cyst wall dark-colored, contains teeth, hair and bone, hair almost black; right ovary enlarged, cystic, also removed; wash out, drainage; uterus somewhat enlarged, soft, and of dark-red color.	Recovered.	Three and a half months later, seen and examined; is undoubtedly pregnant; 26th Aug., 1887, daily expecting confinement at full term.
M. G., aged 38, married.	Dr. Molson, Montreal.	Married 13 years; before marriage menses irregular, last three years profuse, especially last six months.	Anæmic, fat, weak person; flowing continuously; pains in hips, left leg and thigh. The veins of left leg and thigh distended, varicose; during last six months moderate enlargement of abdomen; feels solid thro' the thick rigid parietes; uterus fixed.	Abdominal wall thick, 1½ inches fat; rigid omentum, adherent to lower parts of parietes; a cyst on either side, with broad attachment, containing clear, amber-colored fluid with cholesterine crystals. Cysts freely opened but not removed on account of broad attachment and nature of contents; ovaries not distinguishable; washing out, drainage.	Recovered.	Recovery was tedious, but seemed to be complete, when (slowly and with severe pain) an abscess developed in right iliac region. Opened by abdominal section. Complete recovery

M. V., aged 33, married.	Dr. Geo. Ross, Montreal.	Began to menstruate at 11; married 9 years; five pregnancies, last 20 months ago: suckled 15 months. Menses regular last five months; noticed enlargement four months ago: rapid increase for one month, then very slow: slight abdominal pain: losing flesh.	Uniform, fluctuating enlargement, 38½ in.; firm areas and trabeculæ; uterus retroverted, fixed.	Multilocular cystoma of left ovary; anterior adhesions; adhesion of rectum to pedicle, pedicle broad; ligatured in sections; right ovary enlarged and cystic, removed; wash out and drain.	Recovered.	Perfect health.
N. C., aged 22, unmarried.	Dr. J. Stephenson, Iroquois, Ont.	Menses regular, profuse; began at 16. Noticed enlargement 10 months ago; rapid increase. General health perfect.	Uneven enlargement of abdomen: fluctuation in areas; uterus retroverted, lies on floor of pelvis.	Multilocular cystoma of left ovary; no adhesions, favorable pedicle; right ovary cystic, enlarged, size hen's egg, removed; bleeding from rent in right broad ligament; after ligature, oozing; drainage-tube.	Recovered.	On removal of drainage-tube abscess formed, with pain and fever; discharged freely for a few months; silk ligatures came away; complete recovery after some months.
A. S., aged 43, unmarried.	Dr. A. D. Blackader, Montreal.	Menses ceased 4 years ago; healthy till 3 years ago, when began to have pelvic pain. Two years ago a small pelvic tumor in right iliac region, Severe pain last few months. Steady increase of size.	A rounded, firm, tender tumor size of a child's head; uterus not very moveable, retroverted.	Desperately severe operation; tumor solid, very friable, broke down during removal; adhesions to parietes, omentum, intestines and pelvic structures proceeding from right ovary and involving tube; clamping of right corner of uterus; wash out and drain; microscopic examination showed sarcoma.	Recovered.	Recovered from operation, but recurrence and death eleven weeks after operation.
M. A., aged 57, married.	W. G.	Menses ceased five years ago. A few months later, a constant thin, pinkish discharge, which has never ceased.	Uterus enlarged and retroverted; cervix healthy.	Uterus extirpated by vagina. After its removal a cyst of the size of an orange also removed; found to be dermoid.	Recovered.	Good health.

CHLORAL AND BROMIDE OF POTASSIUM IN THE TREATMENT OF TETANUS CASES.

By C. E. Gooding, M.D., Barbadoes, W.I.

It never having been my fortune during my student career—or subsequently, when for many months I haunted the chief hospitals of London—to have met with a single case of tetanus, I naturally became impressed with the idea that this was an exceedingly rare disease—as rare, in fact, as I had been taught to regard it fatal. Such an impression, correct enough with regard to its occurrence in temperate climates, I knew did not hold good in the tropics and among the negroes. Still, I was not prepared to find it so very common. The thirteen cases whose histories are here given have been met with in a general practice extending over little more than two and a half years. Besides these, I can call to mind at least two other cases which were prescribed for as dispensary patients, but which were subsequently lost sight of.

A better idea of the relative frequency of its occurrence may be formed from the following statistics of the Barbadoes General Hospital: During seven years, since 1878, there have been 103 cases of tetanus ont of a total of 14,369 cases of all sorts treated in-door—an average of nearly 15 cases a year, and in the proportion of about 1 in every 140 cases of all sorts treated. The 103 consisted of 54 cases of traumatic tetanus and 49 of the idiopathic variety.

Case I.—A. B., negress, aged 4 years. Great deformity of both feet, so that she has never walked upright, but crawls on all fours. No history of exposure to cold, and no sign of traumatism. Two days before seen complained of a slight pain in the throat; this increased, and was followed by difficulty in swallowing, with stiffness in the neck and pain in the epigastrium. Since the day before, had taken very little nourishment, and had had no sleep owing to constantly recurring spasms. She presented all the symptoms of acute tetanus—expression anxious, features drawn, marked sardonic grin, teeth clenched, head thrown back, abdomen tense, and all the muscles of the trunk

and neck rigid. Her temperature was 101½°, and pulse 100. Clonic convulsions occurred every few minutes, and could be brought on by the slightest touch or noise; during these, there was well marked opisthotonos. Swallowing was impossible, and when attempted everything regurgitated through the nostrils. As nothing could be taken by the mouth, an enema containing 15 grains each of chloral hydrate and bromide of potash in milk was administered, directions being left for it to be repeated every hour until she should fall asleep, and afterwards as often as necessary to control the violence of the convulsions. She slept for about an hour after the second enema, and two were subsequently given during the night whenever the spasms returned in force. The next day, by pouring liquid along the side of the cheek and allowing it to strain through the clenched teeth, she could be got to swallow a little, though still with difficulty. The enemas were now discontinued, and the medicine in smaller doses, as well as nourishment, were subsequently given by the mouth. Under this treatment she made a rapid and uninterrupted recovery, the convulsions becoming gradually less frequent and severe, and ceasing entirely on the eleventh day of her illness. The tonic spasms of the muscles of the neck and abdomen remained somewhat longer, but at the end of another week these, too, had entirely disappeared.

Case II.—H. B. B., negro, male, aged 17 years. After getting wet while at work and remaining in his wet clothes, he noticed next morning a stiffness about his neck and jaws, which gradually extended to his shoulders and trunk. The next day, on attempting to sit up he was suddenly seized with a convulsion which threw him back in bed. This convulsion was followed by others, increasing in strength and the rapidity of their occurrence. When seen on the third day they came on at intervals of only a few minutes. During the stronger spasms he was bowed so that only his head and heels touched the bed. They came on spontaneously, but were also excited by the slightest movement or noise in the room. The abdomen was as hard as a board, and the transverse markings of the recti muscles could be beautifully seen. Temperature 101°; pulse 84; bowels costive. Between

the convulsions, could open the jaws about a quarter of an inch, and swallowed fairly well. Perfect quiet in a darkened room was ordered, and chloral and bromide of potash in large and frequent doses until he should sleep, and afterwards as required. This treatment was continued for two weeks. During this time, whenever the medicine was discontinued for a few hours, the spasms would come on in as full force as ever, but immediately abated or ceased altogether on its resumption. At the end of a fortnight he had made no material advance towards recovery, but remained very much in *statu quo;* he also began to refuse the chloral, complaining that it excoriated his mouth. Opium was therefore now substituted for it, being given in the form of Battley's sedative solution, along with the bromide of potash. While taking the opium the bowels, already costive, became obstinately so, the tongue furred, headache prominent, and the appetite entirely lost; the pulse also became weak, running up over 120, and the temperature increased to 104°, delirium becoming a prominent symptom. At the same time, though the opium produced greater stupor and drowsiness, it did not appear to hold the spasms more in check than the chloral, in favor of which it was abandoned at the end of a week. On the resumption of the latter the bad symptoms soon disappeared, and he was kept under its influence in gradually decreasing doses until the disease wore itself out.

This was a very prolonged case, the convulsions not ceasing entirely until the seventh week. Towards the end of this time they did not occur spontaneously, but could be brought on by any sudden stimulus, as a touch. A certain amount of stiffness and rigidity was appreciable—chiefly in the abdominal muscles—for many weeks more. Stimulants were freely exhibited throughout the entire case.

Case III.—M. A., a mulatto infant aged three days. This was a vagrant midwifery case, the child being admitted with its mother into the parish alms-house on the third day after its birth. The mother complained that it had refused the breast all that day. On examination, the corners of the mouth were seen drawn up, giving the face the characteristic sardonic grin which

could not be mistaken even in so young an infant. Once seen, there is something about the tetanic expression which fixes itself in the memory, and which cannot be mistaken for anything else. No stiffness could be detected in any of the muscles except those of the jaw; the clonic spasms, however, were frequent and strong. The child was in a very filthy condition, and wrapped in a bundle of dirty rags. The navel was very offensive, and a zone of erysipelatous inflammation extended to a distance of nearly three inches all around it. It only lived a few hours after admission, death taking place during a convulsion.

CASE IV.—G. A., quadroon, female aged 18 years. This was a case of idiopathic tetanus coming on a few hours after exposure to cold. The spasms principally affected the abdominal muscles, causing marked emprosthotonos. The muscles of mastication were very slightly involved, and the mouth could be fairly well opened even when the disease was at its height; the muscles of expression, however, were affected and the risus marked. The clonic spasms under the treatment of chloral and bromide of potash ceased in about a week, but the rigidity of the abdominal muscles continued a full month longer before recovery was complete.

CASE V.—A. N., negress, aged 17 years. No history of traumatism. Fell asleep in a draught while perspiring. On awakening, felt chilly and became feverish towards evening. Next morning felt stiff all over and unable to leave her bed. On attempting to eat, found it impossible to do so, as she could scarcely separate her jaws. During the day the tonic spasms became more marked, and towards evening convulsions set in, becoming almost incessant during the night. The following morning, when seen for the first time, she was found living in a miserable hovel which scarcely afforded any protection from the weather. All the voluntary muscles were involved, except those of the hands and eye-balls; convulsions occurred every four or five minutes, lasted each about thirty seconds, and were so violent that she had to be constantly watched and restrained in bed, for once during the night she had been thrown completely

out of bed by them and fallen on the floor. Her jaws were firmly locked, lips bitten, and bloody froth issued from the mouth. She was in a state of deep stupor; temperature 104½° ; pulse 136. She was with difficulty got to swallow a draught containing ʒss each of chloral and bromide with some brandy, and fifteen minutes after double this dose was given per rectum. The medicine commenced to take effect in about half an hour, and directions were left for it to be repeated, if necessary. When seen again that morning her condition was much improved: she had had several good snatches of sleep, mind was fairly clear, and spasms abated, while the temperature had gone down to 101.3° and pulse to 116. This change for the better lasted three days, when, unfortunately, she got wet in bed through the leaky roof. The convulsions returned in greater force than ever, causing her to bite her tongue and cheek most horribly. It being impossible to administer anything by mouth or rectum, ⅓ gr. of morphia was given hypodermically, but without effect, and she died soon after during a prolonged convulsion. Her skin was noticed to be exceedingly hot before death, but it was impossible to take her temperature. The thermometer placed in the axilla immediately after death registered 106.7°, and half an hour later went up to 108.1°. Unfortunately opportunity of testing the temperature further was not afforded. When first seen some of the symptoms in this case seemed suggestive of acute uræmia, but this was negatived by the absence of albumen from the urine and the persistence of the *tonic* spasms.

Case VI.—H. C., male negro, aged 9 years. This case was first seen on the second day from the commencement of the attack. Rigidity was so marked that the limbs and body could only be moved as a whole. There was a history of a fall on his chest from a height of about six feet two days before the first seizure. At the time did not seem to be much affected by the fall and went about as usual after. There was a small wound in the ball of the left thumb, which had been pierced by a splinter of wood at the time of his fall. The wound was almost healed, and on careful examination showed no signs of any part of the splinter remaining in it. The usual sedative treatment

was adopted. On the fifth day of his illness a large, tense and very painful swelling was noticed over the upper part of the left thigh, and most marked externally. There was also considerable fever (103°), which had not been present before. As the slightest movement caused great pain and aggravation of the spasm, a thorough examination of the swelling could not be made. It being regarded as probably a commencing abscess (to which, by the way, the negroes seem peculiarly subject), hot poultices were ordered to be applied. The next day the same condition was found, but on making a further examination it was found in addition that there was considerable shortening (2½ inches) of the leg on that side, and at the same time marked eversion. Manipulation of the swelling itself was impossible. Fracture of the upper port of the femur was diagnosed, and this it was afterwards proved to be. No movement could be detected at the seat of fracture, as the contracted muscles surrounding the bone kept it as steady as a splint. There was evidently great over-riding of the fragments, as shown by the great shortening and swelling. It being thought that the fracture was probably caused by a fall from the bed, as happened in *Case V* during a convulsion, the parents, who were very intelligent persons, were questioned, but they positively declared that this had not happened, as one or other of them had always been with him. An attempt was made to keep the parts as much as possible at rest by means of splints, but, as might have been expected, without success. Consequently the healing process was, after all, left entirely to nature. The case went on slowly towards recovery. It was over a month before the clonic spasms ceased, and the rigidity lasted a couple of weeks longer. Eventually, however, he made a good recovery, and is now limping about quite well, but for three inches shortening in the leg and some stiffness in its movements. The fracture seems to have been just below the trochanters. There is a great deal of bony growth about it owing to the impossibility of keeping the parts at rest. This interferes somewhat with the action of the muscles and prevents the very free movement of the limb.

Case VII.—A. C., negress, aged 4 years, and a cousin

of the preceding. Was suffering from tetanus several days before she came under treatment. A painful accident occurred during the course of the case; while in a convulsion the tongue was caught between the teeth and held there for some time, giving rise to considerable hemorrhage. It could only be released after using great force and prying the jaws open with the handle of a strong spoon. Beyond this there is nothing special to record about the case, which was of the idiopathic variety, and went on steadily to recovery. The convulsions never recurred in any intensity after she was got under the influence of the chloral and bromide. The tongue was for many days greatly swollen, and a small part of the tip sloughed away.

CASE VIII.—J. G., a black boy, aged 14 years. This was another case of the idiopathic variety. The tetanic symptoms had almost entirely disappeared at the end of the second week, when he was carried off by an intercurrent attack of pneumonia.

CASE IX.—E. W., male, black, aged 38 years. Received a severe blow from a heavy stick over the right wrist-joint, which was opened. The pisiform bone had to be removed, but an attempt was made to save the arm, the wound being put up with iodoform and dry dressing. All went well until the third day, when an erysipelatous inflammation showed itself, and extended rapidly up the arm to the shoulder. Several very free incisions were made into the inflamed tissues, and resulted in the arrest of the gangrene and the subsidence of the inflammation as low as the elbow-joint. The forearm was, however, hopelessly disorganized and the patient greatly prostrated. On the seventh day, as the gangrene seemed well limited to the forearm, and with no tendency to spread, it was decided to amputate. Unfortunately, symptoms of tetanus set in on the same day, and the operation was abandoned as hopeless on account of his general condition of prostration. The spasms, though at no time very severe, proved quite refractory to treatment, and he gradually sank and died from exhaustion on the ninth day.

CASE X.—There was nothing remarkable about this case, which was of the idiopathic variety of a mild type, and ended

in recovery. It lasted between two and three weeks, and occurred in a mulatto girl of 5 years.

CASE XI.—This was a case of "lock-jaw" in a negro lad aged 17 years. He was seen on the second day after the development of the disease. The convulsions were very severe; respiration 36 and pulse 90. One grain of the extract of Calabar bean was given, and directions were left for it to be repeated every hour, the respirations meanwhile being carefully watched. When seen five hours later his condition was very alarming. He had had no sleep, but the spasms were much abated; the respirations had gone down to 13 per minute, and there was a distinct pause between each act; the pulse also was reduced to 72, very weak and somewhat jerky; he complained a good deal of nausea and faintness, and was in a profuse clammy perspiration. The Calabar bean was at once discontinued and stimulants freely administered until he rallied from the state of collapse. He was subsequently put on chloral and bromide. It proved a mild case, and he was convalescent in three weeks.

CASE XII.—E. M., negro boy, aged 12 years. There was no traumatism, but all the symptoms of tetanus were well marked. The usual treatment was adopted. On the third day he passed two round worms per rectum. On the fifth day there was no material improvement, the spasms being only kept under control by the medicine. Small doses of santonine, calomel and rhubarb were now given, and resulted in the expulsion of twenty-three more worms during the next three days. This was at once followed by a marked improvement in all the symptoms, so that in one week from the date of taking the santonine the spasms had entirely disappeared.

CASE XIII.—J. W., male negro, aged 30 years. He was first seen as a dispensary patient, to attend which he had walked about two miles without any assistance. He complained only of a fixed pain about the middle of the sternum. This pain had begun the day before, and increased in severity up to the time of his visit; it was paroxysmal in character, and when at its height greatly interfered with respiration. His pulse and tem-

perature were normal, and physical examination gave negative results. A stimulating anodyne liniment was ordered, and a draught of Battley's sedative solution of opium and bromide of potash. Two days after he was seen at his own home with all the symptoms of tetanus. Opisthotonos was so pronounced that in order to get his head into a position to enable him to swallow his medicine his rigid body had to be lifted into a perfectly erect posture on the floor and there supported until he drank it during the intervals of the clonic spasms. Two 60-grain doses of chloral and bromide were given with stimulants before he got the slightest relief, and they were afterwards continued in smaller quantities. Two days after, the spasms had again become so violent that the large doses had to be resumed, but with very slight effect, as he died on the following day, the seventh of his illness.

It is but fair to say that this man's surroundings were most unfavorable, as he lived in a small wooden two-roomed house, one of the apartments being occupied by a gang of noisy urchins whom it was impossible to keep in any way quiet.

In the thirteen cases whose histories are here recorded, it will be noticed that the sexes are nearly equally represented, seven being males and six females. They all, without exception, belonged to the negro race, and ten of them were pure negroes. Their ages vary from three days to 38 years, but no less than eleven of them were 18 years or under. Ten cases were idiopathic and two traumatic, while one was a case of tetanus infantum, which in its characteristics partakes somewhat of the nature of each of these varieties. Eight ended in recovery and five died. Among the latter was a neglected infant of three days, another was complicated with traumatic gangrene, and in a third case death was due to an intercurrent attack of pneumonia when the tetanic symptoms were subsiding. Four or five were treated in the Parish Alms-House, but the majority were attended at their own homes, where the surroundings were very unfavorable.

Case II affords a good example of the great length of time the disease may occasionally last, it being three months before the tonic contraction of the abdominal muscles entirely disap-

peared. In *Case IV* the peculiar aged and drawn expression of the face—the remains of the sardonic grin—remained for many weeks after all other symptoms were gone. Perhaps the most remarkable is *Case VI*, where the violence of the muscular contractions were so great as directly to cause a fracture of the femur. It shows, too, how the most unpromising cases may occasionally pull through. Instances in which fracture of the femur have occurred from this cause are on record. The teeth also are said to have been occasionally shattered by the sudden and violent closure of the jaws.

With regard to the treatment of this grave affection, should any definite exciting cause be made out it should, if possible, be removed at once. Thus a foul wound should be got into a healthy condition as soon as possible, or failing that be excised, or if on an extremity the whole member may have to be removed; worms also and any source of intestinal or other irritation should be got rid of immediately. In cases where no definite exciting cause can be made out, and which are generally ascribed to "taking cold" (a convenient phrase which covers a woeful lot of ignorance), the treatment resolves itself merely into combating those symptoms which immediately threaten to bring about a fatal result. It is probable that tetanus runs a definite course, which nothing seems to check, and that if only the patient can be kept alive long enough the disease will gradually wear itself out. Now the two main causes of death are asthenia, the patient being utterly worn out by the constantly recurring spasms, and asphyxia due to a prolonged spasm, during which the respiratory movements are arrested. The chief indications then are:

(1) To keep up the strength with stimulants and plenty of nutritious and easily assimilated liquid food. Solids cannot, as a rule, be swallowed, and when they can be taken might prove irritating. When the spasms are very strong it is often only possible to administer nourishment by enemata.

(2) To do anything to allay the violence of the spasms. Perfect quiet in a cool and darkened room is a valuable accessory to this end. It is noticed that the muscles relax and spasms cease during sleep, hence to bring about this condition is the

main indication in the treatment. There are a number of drugs which may be employed to effect this result. As, however, treatment has often to be persevered in for weeks on a stretch, it is better to employ those drugs which produce sleep in the most natural way and at the same time least disturb the other functions of the body. A combination of chloral and bromide of potassium I have found to fulfill these indications most effectively. Bromide of potassium acts as a hypnotic, and is one of the best anti-convulsive remedies we possess: it greatly lessens the reflex excitability of the spinal cord. The sleep produced by chloral more nearly resembles the normal sleep of health than that brought about by any other drug. Chloral has a direct hypnotic action on the brain, but probably also causes sleep by producing a condition of cerebral anæmia; this it does through its action on the vaso-motor centre, causing dilatation of the blood-vessels generally. It also has a marked influence on the spinal cord, diminishing and finally abolishing its reflex action. It is also said to weaken the action of the heart, but I cannot say I have noticed this even when given in very large and frequently repeated doses.

It is wonderful what large quantities of these drugs may be taken in tetanus without causing any bad symptoms whatever. Thus (*Case II*) H. B. B., in four weeks, took six ounces and three drachms of chloral and nearly ten ounces of bromide of potassium, besides an ounce of "liquor opii sedativus." The only difficulty in administering chloral for any length of time is, that it is apt to excoriate the mouth, but I have always easily obviated this by giving it in syrup and largely diluted.

In several instances, when the patient has grown tired of the chloral, I have substituted opium for it, but always have had to revert in a few days to the former. For while the opium seemed to control the spasm as well, it caused much greater stupor, together with headache and aggravated constipation.

In one instance (*Case IV*) counter-irritation over the spine was employed, but with very doubtful results—it seemed rather to aggravate the symptoms.

In *Case XI* I administered the extract of Calabar bean in

one-grain doses hourly until five grains had been taken, but its depressant effect on the heart's action and respiration was so alarming that I did not feel myself justified in continuing it. It seems to me that to give such a powerful drug—especially if it is pushed to the degree that Ringer recommends—must endanger the patient's life as much or more than the disease for which it is given, and is not justifiable when we possess other medicines less hazardous and equally potent.

The result of the santonine in *Case XII* was very marked. The disease was evidently kept up, if indeed not caused, by the irritation of worms. I am inclined to think that I have not paid sufficient attention to these parasites in the past, and possibly some of my prolonged cases may have been kept up by the irritation of their presence. They occur very commonly among the negroes, and though none were met with in any of the other cases, this, perhaps, was due to their not being sufficiently searched for.

Society Proceedings.

CANADIAN MEDICAL ASSOCIATION.

The twentieth annual meeting of the Canadian Medical Association was opened in St. Paul's School-room, in the city of Hamilton, on August 31st. Dr. Holmes of Chatham, President, in the chair.

Dr. Holmes introduced the President elect, Dr. J. E. Graham of Toronto.

Dr. McCargow, on behalf of the Hamilton Medical and Surgical Society, read an address of welcome, and extended to the members of the Association a cordial invitation to be present at a conversazione to be held that evening.

The President replied, accepting on behalf of the Association the kind invitation of the Hamilton Medical and Surgical Society.

The minutes of the last general meeting were then read and approved of.

The following were unanimously elected members of the Association: Drs. Cockburn and Biggar of Hamilton, McDermid of Dunvegan, Hunt of Williamstown, Evans of Seaforth, Reynolds of Hamilton, and Ross of Windsor.

The following were appointed members of the Nominating Committee:—

Drs. Hingston, Gardner and Stewart of Montreal; Graham and Grasett of Toronto; Tye of Chatham; Hunt of Williamstown; McDonald and Mullin of Hamilton; Dupuis of Kingston; Eccles of London; Sloan of Blyth; Smith of Seaforth; Mathieson of St. Mary's, and Sir James A. Grant of Ottawa.

The President named the following officers of sections:

Medicine—Dr. John Mathieson, St. Mary's, chairman; Dr. Bruce Smith, Seaforth, secretary.

Surgery—Dr. Bray, Chatham, chairman; Dr. Packard, Thamesville, secretary.

The Association then adjourned.

Afternoon Session.

Dr. McPhedran opened the discussion on Medicine, his subject being *The Pathological Condition and Behavior of the*

Fluid in Empyema. He stated that in few cases of effusion into the pleural cavity do the signs and symptoms maintain the uniformity described in text-books. This is especially true of children, in whom there is usually little alteration in the shape of the chest, and no displacement of the heart. Bronchial breathing and bronchophony are nearly always present—a circumstance few text-books refer to. From the retractile energy of the lung, small effusions are fixed and immovable, not changing position with movement of the patient, as is usually taught. For the same reason the upper border of dulness is not a water-line, but a curved one, with its highest point in the axillary regions. In discussing the pathology of empyema it was pointed out that all English writers, with few exceptions, teach that the cause in no way differs from that of simple pleurisy, except that there is a difference in the constitutional state. Some, however, believe that in a few cases some agency, as yet unknown, is necessary for the production of the suppurative disease. These views are in strange contrast to the advanced and decided views of German authors, who, without exception, attribute this, as well as all other suppurations, to the introduction into the pleural cavity of a specific virus. Micro-organisms are nearly always found in the pus of cases of empyema as in the pus of all acute suppurations. No other theory can account for the production of empyema. The effusion is at first thin, and nearly or wholly serous, but seldom will any means that we can adopt prevent it from becoming distinctly purulent. In the treatment, prompt removal of the pus is necessary by aspiration or free drainage. Aspiration is only applicable to children, and in them it seldom succeeds unless the pus is localized. Free incision is equally safe, and promises more certain success, and should be at once adopted in all cases, with few exceptions, even in children. A free opening was advised, with the removal of a rib if necessary, under the strictest antisepsis. Chloroform was advised in children as the safest anæsthetic. Washing out the cavity was strongly condemned as routine practice, as being usually unnecessary and a proceeding liable to be followed with the gravest danger. Many cases of death have resulted from it, so that if done at all it should be done with the greatest precautions.

DR. MULLIN of Hamilton opened the discussion. He dwelt on the difficulty at times of making a diagnosis, illustrating his remarks by the recital of a few very instructive cases in this relation.

DR. SHEARD of Toronto referred to cases that had been under his observation where suppurative pleurisy was coexistent with pneumonia, rendering the diagnosis very difficult. He insisted on the great value of taking the temperature frequently in enabling us to come to a conclusion.

DR. TESKEY of Toronto was averse to the use of even the hypodermic syringe in doubtful cases. He has seen a serous effusion converted into a purulent one by the use of the syringe.

DR. WHITEMAN of Shakespeare made a few remarks on the diagnosis between pneumonia and empyema.

The President, Dr. Graham, then read the annual address. (See page 129.)

The address on surgery was then delivered by Dr. Grasett of Toronto on "*Obstructed Urinary Outflow.*" He dwelt especially on the two great causes of obstruction, stricture of the urethra and enlargement of the prostate. In the treatment of stricture of the urethra, Dr. Grasett relies principally on the use of flexible bougies. He has found cocaine well adapted to preventing the disagreeable sensations occasioned by the passage of instruments. He injects half a drachm of a four per cent. solution into the urethra. He has found that cocaine also prevents urethral fever.

Sir James Grant of Ottawa and Dr. Hingston of Montreal took part in the discussion which followed the reading of Dr. Grasett's address.

MEDICAL SECTION.

Dr. Mathieson of St. Mary's, chairman.

DR. R. L. MACDONNELL of Montreal read a paper on "*The Loss of Knee-jerk in Diphtheria.*" In eighteen cases of diphtheria under his care in the Montreal General Hospital, there was an absence in ten on the day of admission. The conclusions arrived at were: (1) That in a considerable number of cases the knee-jerk is lost from the beginning of the disease, and thus

affords a valuable means of diagnosis of the nature of the throat affection. (2) That loss of the knee-jerk is the first evidence of the disease having attacked the nervous system. (3) Absence of knee-jerk has no influence on the prognosis.

Dr. W. H. B. Aikins of Toronto gave an interesting account of the *Anthrax Epidemic in Guelph.* The causation of this epidemic is attributed by Dr. Bryce to wool imported from Syria which is used in the factories about Guelph. The washings find their way into the streams, and the cattle from drinking this water become affected. Three rabbits were inoculated with a minute quantity of the blood from one of the infected animals. Two kittens and two guineapigs were treated in a similar manner. Eighteen hours after inoculation one guineapig died, and on cutting into the body the lungs were found deeply congested and the pleural cavities contained a large quantity of serous fluid, which, on microscopic examination, was found to be rich in rod-shaped bodies of uniform breadth and of various lengths. A second guineapig inoculated with this fluid died sixteen hours after, and a third infected from the second died ten hours after. The rabbits and kittens withstood the action of the fluid injected.

Surgical Section.

Chairman, Dr. Bray of Chatham.

A paper was read by Dr. Archibald Malloch of Hamilton, entitled "*Report on Nineteen Cases of Tracheotomies in Diphtheritic Croup.*" The reader strongly advocated early operation and the use of a solution of soda bicarb.; in washing out the tube by means of a feather, followed by a wash of corrosive sublimate. The statistics of the nineteen cases bore out his arguments for the early operations and the methods used in their performance. The paper was well received.

In the discussion of the paper,

Dr. Atherton (Toronto) believed that where the pharyngeal and nasal trouble was considerable, the disease would be so far advanced in the larynx that there would be little hope of the operation. He advocated the operation in the following cases: (1) Where the laryngeal trouble comes on gradually, with slight pharyngeal and nasal obstruction. (2) To secure easy breath-

ing, not with the expectation of curing, but to relieve suffering arising from the dyspnœa.

DR. TRENHOLME (Montreal) followed with a few remarks.

DR. JAMES BELL (Montreal) thought it was a mistake to make the operation early, and related some cases where operation was urged and was refused by the parents, and the children recovcovered. He prefers the low to the high operation. He performs the operation usually without the tube, simply using a clasp merely to keep the edges of the wound apart, or a plug of lint or some such material. He believed making the largest breathing space the main object in not using the tube.

DR. MALLOCH closed the discussion on the subject.

The section then adjourned to meet in the forenoon of Sept. 1.

SECOND DAY, SEPT. 1ST—GENERAL MEETING.

The chair was taken by the President at 10 A.M.

After the reading of the minutes and the introduction of new members, the President appointed Drs. Ross and Stewart of Montreal and Dr. Graham of Toronto a special committee upon Organization, to consider the best means of maintaining and increasing the usefulness of the Association.

Dr. Bantock, President of the British Gynæcological Association, was invited to take a seat upon the platform.

DR. ECCLES of London then delivered the address on Obstetrics, on "*Subinvolution of the Uterus*." He referred to the cause, diagnosis and treatment of this affection. (This paper will appear in our next number.)

DR. CAMERON of Montreal considers septicæmia the most frequent cause of subinvolution. He compared the vaginal canal to a culture tube, which should be kept sterilized. He accomplished this by insufflation of dry antiseptic powder and placing aseptic jute at the entrance of the canal.

DR. GRANVILLE BANTOCK being invited to speak on this subject, confined his remarks to the treatment. He deprecated the use of strong escharotics. He found that nearly always the correcting of any existing displacements and the application of glycerine and iodine to the cervix were sufficient.

DR. TRENHOLME of Montreal considered that the removal of displacements was the most important part of the treatment.

DR. HOLMES (Chatham) had excellent results from the use of tampons of sheep's wool.

DR. GARDNER'S paper, entitled "*A Year's Work in Abdominal Surgery*," was read in the general meeting by request. It will be found on page 141.

DR. BANTOCK then addressed the Association. He expressed his thanks for the kindness and courtesy which had everywhere been shown him since he set foot on Canadian soil. He had listened with great pleasure to Dr. Gardner's paper, and he was quite in accord with him in the methods of treatment adopted in the several cases. He referred particularly to the case of pregnancy, and thought Dr. Gardner ought to be congratulated upon the result. He then protested against the adoption of Listerism in abdominal incisions. He thought that it was not only unnecessary, but in some cases positively harmful. The application of strong carbolic acid produces necrosed tissue, which afterwards acts as a foreign body, setting up fatal inflammation. He recommended perfect cleanliness; the wounds should be scrupulously clean. The peritoneal cavity should be thoroughly cleansed; no clot of blood or film should be allowed to remain. He laid great stress upon this point, as the blood or film would afterwards act as a foreign body. He did not think it of any importance to prevent atmospheric germs from entering the wound. He paid no attention to the germ theory in abdominal surgery. In proof of the correctness of his views he gave statistics showing that the mortality in ovariotomies had been reduced since the Listerian method had been abandoned. He also agreed with Dr. Gardner in withholding narcotics after an operation. He never gave them. They did harm rather than good. The learned speaker then closed his address by referring to the importance of manipulative skill in these operations. He warned young men not to undertake such cases unless they intended to pay special attention to the subject. He cited statistics from his own experience, showing that as years advanced, and his practical knowledge increased, the results became more and more favorable.

At the conclusion of Dr. Bantock's address, Dr. Rosebrugh of Hamilton moved, seconded by Dr. Worthington of Clinton, "That the thanks of the Association be given to Dr. Bantock for his excellent address, and that he be made an honorary member of the Association." The motion carried amid great applause.

Drs. Trenholme and Hingston of Montreal continued the discussion. They both quite agreed with Dr. Bantock in his views on Listerism and the germ theory. Dr. Hingston did not think the second ovary should be removed unless the cyst is quite large. He had in two or three cases allowed the second ovary to remain when the diseased condition was slight; no bad results followed, and the women had afterwards borne children.

DR. MCCARGOW, on behalf of the Hamilton Medical and Surgical Society, invited the delegates to take a sail per steamer Mazeppa to the Beach, where luncheon awaited the members.

The Association then adjourned.

Business was resumed at 2 P.M., the President in the chair.

DR. STEWART of Montreal gave the address on Therapeutics, the subject being *The Present State of Cardiac Therapeutics.* This paper will appear in a future number.

MEDICAL SECTION.

SIR JAMES GRANT read an interesting paper on "*Renal Calculus and Cheyne-Stokes Respiration,*" which will appear in a future number.

DR. BULLER of Montreal read a valuable paper on "*Headaches in connection with certain Optical Defects.*"

DR. R. L. MACDONNELL of Montreal read a paper on "*The Treatment of Thoracic Aneurism by the Iodide of Potassium.*" The histories of six cases were brought in evidence of the good effect of the drug in cases where rest, quiet and good diet were not obtainable. The most remarkable of the cases was one in which the aneurism had eaten through the sternum and formed a pulsating egg-shaped tumor in the middle of the chest. Under the iodide the aneurism had become so reduced that the edges of the aperture of the sternum could be distinctly made out by the finger. The patient left the hospital much relieved. The

first case on the list presented a symptom of which Dr. MacDonnell claims to have been the first observer. The aneurism formed a pulsating prominence in the back between the scapulæ and the spine, and, it is presumed, caused pressure upon the fifth and sixth intercostal nerves. During a period of two months copious sweating was observed over an area corresponding in outline to the cutaneous distribution of the fifth and sixth intercostal nerves. The patient improved rapidly under the iodide treatment; sweating, pain, dyspnœa and other pressure symptoms subsided, and the patient left the hospital in June, 1886. At date this patient is fairly well, the pulsating area diminished in extent, symptons not troublesome, and he is able to take part in the keeping of a restaurant. There has been no recurrence of the localized sweating.

Dr. Campbell of Seaforth read an account of a very instructive case of "*Albuminuric Convulsions occurring during Pregnancy.*"

The General Secretary read an abstract of Dr. Mills' paper on "*A Physiological Basis for an improved Cardiac Pathology.*" This important paper will be published in full in a future number.

Surgical Section.

Chairman, Dr. Grasett of Toronto.

The section was opened by the reading of a paper by Dr. Hingston of Montreal on "*The Removal of Naso-Pharyngeal Tumors.*" He referred particularly to the removal of fibroid growths, and mentioned the various methods of getting at these growths, but has adopted the following if he cannot get at them by means of the fingers alone, which he is able to do in about half his cases. He cuts across the upper lip just below the nose, going through nearly to the mucous membrane; then a straight cut across the bridge of the nose, and connecting these two by a straight cut along the side of the nose; sawing through the bone and raising the nose over by means of pliers he thus easily gets at the tumor. He illustrated the results in some cases by means of photographs.

The next paper was read by Dr. Cameron of Montreal, the subject being "*Some Practical Points in Aseptic Midwifery.*"

The reader is a germ theorist in the extreme, and believes that germs are the direct cause of puerperal septicæmia. We must have the seed, and we must have the soil; and the rational management of preventing puerperal diseases is to shut the door and prevent the seed getting at the soil. Also sterilize the soil. Do everything to prevent the invasion of the enemy. But if germ has entered, and symptoms are showing themselves, douche out the uterus thoroughly; if this fail, curette to bring away any clot, membrane or placenta. If these means do not control the fever, attend to the nourishment and stimulation.

The paper was decidedly practical and interesting. Drs. McCargow, Wright, Dupuis and Taylor took part in its discussion.

This paper was followed by one by Dr. Johnston, entitled "*Puerperal Peritonitis*," illustrating, by means of the microscope, specimens of pathological uterine tissue resulting from peritonitis, also showing the microbe. He reported a number of cases, including the autopsies, and in all cases micrococcus were found and cultured.

DR. DUPUIS of Kingston followed with a paper entitled "*Removal of the Astragalus.*" He cited two cases of successful operation of this kind, giving good results, with useful limbs. He urged conservative surgery, with strict aseptic procedure.

DR. SWEETNAM of Toronto then read a paper on "*Stricture of the Rectum*," after which the section adjourned.

GENERAL MEETING.

The Association resumed its session, the President in the chair.

The President stated that he had received the report on Hygiene from Dr. Cassidy. Owing to want of time it was taken as read.

Votes of thanks were tendered to the President, Secretary and Treasurer, and to the profession in Hamilton for their great kindness and courtesy. A vote of thanks was also given to the authorities of St. Paul's Church for the use of the school-room.

The following were elected officers for the ensuing year:—

President—Dr. George Ross, Montreal.

General Secretary—Dr. James Bell, Montreal.

Treasurer—Dr. Charles Sheard, Toronto.

PROVINCIAL OFFICERS.

For Ontario—Dr. Eccles, London, President; Dr. J. A. Grant, jr., Ottawa.

For Quebec—Dr. Christie, Lachute, President; Dr. Armstrong, Montreal, Secretary.

For New Brunswick—Dr. Currie, Fredericton, President; Dr. Lunam, Campbelltown, Secretary.

For Nova Scotia—Dr. Wickwire, Halifax, President; Dr. Trueman, Sackville, Secretary.

For Manitoba—Dr. Blanchard, Winnipeg, President; Dr. Chown, Winnipeg, Secretary.

For British Columbia—Dr. N. True, New Westminster, President; Dr. Milne, Victoria, Secretary.

The next place of meeting will be Ottawa.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, May 13th, 1887.

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

Pathological Specimens.—DR. JOHNSTON exhibited specimens from a case of *perityphlitis* in a girl aged 12. There was no lesion found in the brain.

DR. BLACKADER said that he had been called in consultation in the case. The girl complained of pain in the back, right iliac region, and down the right leg. A week before, the attack had set in with vomiting and abdominal pain when the mother had given a purgative. There was no marked rise of temperature (101–102), and the pulse never was high. Abdomen was tender and tympanitic. The child had been brought to him formerly for convulsions, which set in first on right side, then becoming general, lasting about twenty minutes. He had been able, also, to elicit clonic movements of that side, first of the arm, then of the right leg, but they did not become general. These nervous symptoms yielded to arsenic, and her general health was good. The convulsions, however, continued up to three o'clock of the day previous to death.

DR. JOHNSTON exhibited specimens of *tubercle of the trachea* from a case of general tuberculosis, in which several of the rings were exposed from ulceration of the posterior surface. He also exhibited the *sternum aud ribs* from a case of *rickets*, in which the *Rachitic Rosary* was well shown from the inside, but not externally.

A Rare Form of Epilepsy.—Dr. Wood then read the following paper on a rare form of epilepsy and exhibited the patient:

Some years ago Dr. William Osler read a paper in this room, in which he spoke of a case of Jacksonian epilepsy. He was fortunate enough to be able to show the brain of the subject and the cortical growth (a small glioma) which gave rise to the epileptiform seizures. I am unable to demonstrate the actual existence of any disease within or about the motor zone of the patient about which I am going to speak, because he is still alive; but I thought it might be interesting to introduce for discussion here, by detailing such a case, the whole subject of false (non-hysterical) epilepsy. The subject of epileptic auræ and the modes of onset in epilepsy has always been an attractive one to me, and I would like to hear from members of this Society in this connection.

Until eighteen months ago the patient, E. B., aged 70, was in fair health. Had never had syphilis, but now suffers and has suffered at times for many years from rheumatic gout, the great toe of right foot being the chief seat of the trouble. Has occasionally had pains (which were set down as rheumatism) in several other joints of his body, but has never been laid up with them. Has never suffered from persistent headache; never had any injury to his head, and his intellectual faculties are well preserved. There is no history of family neuroses. His digestion is fair, and his heart and kidneys are in normal condition. He had his first attack eighteen months ago, and the half dozen attacks which he has had since then are similar to that one, only they seem to be getting worse. He first noticed twitchings of the muscles of the left forearm and face; these twitchings increased in violence, and although he made efforts to control them, they went on getting worse. He then began to experience feelings of fear as of impending danger, and in about a quarter of an hour after the first muscular contraction he thinks he became unconscious for a few moments, but is not certain of it. In half an hour the whole attack was over, and with the exception of a feeling of weakness in the arm, he was all right again. He has had since then, but at no regular interval, some half-dozen attacks, varying little in character from the first one. Nearly every attack has been witnessed by his fellow-workmen or his wife, and I have been able to get a pretty fair account of them. The loss of consciousness lasts but a few moments. Sometimes he has had what he calls double attacks; that is, he will have a second attack a few minutes after the first, which is not as severe as the first, and is not accompanied by unconsciousness. He knows when he is going to have an attack, and will

grasp his left wrist in his right hand and do his best to prevent the spasm from getting worse or from attacking his face. I saw the latter half of one of these attacks, which he declares he can bring on at will, or rather (because the man suffers much from the dread of approaching danger which accompanies the attack) he thinks that when he has a second attack it is due to putting the arm or his body in some uncomfortable position. I was talking to him one day (having reached the house shortly after a seizure) when he said, "There, I am going to have another attack." He grasped his left wrist firmly, but jerking began in the arm, the muscles of the upper arm being most affected. This was shortly followed by twitching in the other muscles of the arm, all growing worse, until the forearm became flexed upon the upper arm; then the muscles of the face began to twitch, and both sides seemed affected just as in true epilepsy. The man meantime made violent efforts to control the spasms, and called to his wife to prevent the flexion of the forearm. She succeeded in straightening it with some difficulty. In five minutes the attack was over, and I am unable to say whether he was unconscious or not. For several days afterwards he complained of weakness in the affected arm. The spasm in this instance and in every other attack was distinctly confined to the left arm and face, beginning first in the arm and extending to the facial muscles. Without the dynamometer test, the grasp of the left hand, several days after an attack, appears to be as firm as that of the right. I do not know why it should be so, but the patellar tendon reflex is wanting in the left leg, and is faint on the right side. The only doubt, it appears to me, in the diagnosis of this case as one of Jacksonian epilepsy, or, in other words, of disease affecting the face and arm centres about the fissure of Rolando, is that matter of loss of consciousness. It seems to me, however, that the clonic muscular contractions, confined to such related groups of muscles as those of the arm and face—the gradual onset—the loss of consciousnes, if at all, but very slight, and coming on near the end of the attack, after the patient has been able to make vain, but intelligent, efforts to prevent the involvement of the other arm and facial muscles—the absence of any history of his falling down,—all these point to a local brain lesion and not to true epilepsy. There was no paralysis in this case, nor any tonic contractions of the muscles, although the patient complains of weakness in the arm for a day or two after an attack. One must conclude that there is no actual destruction of the cortex within the motor area, but that some growth or induration in a situation outside of it irritates,

upon occasions, the centres that preside over the face and arm muscles. In Dr. Osler's case, there was a long-standing contraction of the right foot.

Regarding the treatment of this case, he has been taking, for several months, 5 grs. of potassic iodide, 10 grs. of potassic bromide, and 15 grs. of potassic bicarbonate three times a day, on alternate days, and so far he has been free from attacks. I am watching the case and awaiting developments. Thinking, for obvious reasons, that it was advisable to have his eyes examined, I sent him to Dr. Proudfoot, and I conclude with his report:

"I send you the following notes of E. B.'s case. I am sorry he could not come to see me again, as I wished to examine his colour perception and visual powers, which I could not do before. At the time I examined him I found the humors of the eye perfectly transparent and nothing abnormal, with the exception of the 'disc,' which was somewhat grayish in colour, and there were two or three small collections of pigment at the upper and outer margin, and a narrow atrophic ring extending round the lower and inner third, with a slight depression of the vessels in that region. There was no hyperæmia or other evidence of any very recent trouble, and the patient informed me that his sight was as good then as it had been for some time back."

Discussion.—DR. BULLER said that there were many well-established cases where epileptic attacks were caused by the irritation produced by a shrunken eye-ball. This is especially the case where the choroid coat is undergoing inflammatory changes resulting in the formation of bone. He then called the attention of the Society to the condition of the patient's eye, in which the osseous deposit was perceptible, and said that the irritation produced by the pressure of this hard ring on the ciliary nerves was sufficient to set up sympathetic changes, and perhaps to account for the epilepsy.

DR. STEWART said the case was evidently one of cortical epilepsy. General epilepsy might be traced to such a source as irritation of the ciliary nerves, but he did not understand how it could produce one-sided epilepsy.

DR. TRENHOLME thought Dr. Buller's views were very important; slight but continuous irritation of sensitive nerves is apt to set up epileptic attacks. He thought enucleation of the eye might be performed with benefit.

DR. BULLER, in answer to a question from the President, said that if the attacks recurred he would recommend removal of the eye.

Stated Meeting, May 27th, 1887.

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

PATHOLOGICAL SPECIMENS.

Ulcerative Endocarditis.—DR. ROWELL exhibited specimens from a case of ulcerative endocarditis.

Bright's Disease.—DR. R. L. MACDONNELL exhibited the heart and kidneys from a case of Bright's disease.

Albuminuric Retinitis.—DR. BULLER shewed one of the retinæ from the above case. The patient had first applied to the ophthalmic clinic on account of loss of sight about two weeks before her death; could then count fingers at a distance of a few feet. Pupils were dilated; ophthalmoscope shewed extensive outbreak of patches of infiltration near macula. Recommended patient to enter hospital for her renal disease. At the autopsy, besides the infiltration of retina, several small hemorrhages and some accumulations of pigment were detected. It was a good example of albuminuric retinitis in a late stage.

Cancerous Angioma.—DR. FENWICK shewed a small tumor removed from the neck of a girl aged 21. When first noticed two years before was about the size of a pea. Local applications had no effect. On removal, was the size of an egg, encapsulated, situated just behind angle of jaw, and apparently very vascular. Patient had had an attack of cynanche four months before the tissue growth was first noticed.

DR. JOHNSTON stated that the growth was a cancerous angioma and exhibited a microscopic section. He thought this was of interest, because in this region remnants of the bronchæ would exist.

DR. HINGSTON considered the attack of tonsillitis as merely a coincidence.

Depressed Fracture of the Skull.—DR. FENWICK shewed a specimen of depressed fracture of skull. Patient, aged 25, was admitted into hospital April 3rd, 1887, in an unconscious state, supposed to have been injured by putting his head through a window of railway car and striking abutment of bridge. Scalp wound over three inches in left parietal region; beneath this a depressed comminuted fracture was noticed. Ecchymosis of left eyelid and conjunctiva. A little bloody serum oozing from left ear. Wound dressed with iodoform and patient given bromide of potash.

April 15th.—Some small pieces of loose bone removed from wound, leaving an opening in skull 2½ by 1 inch. Dura mater

slit up for about an inch, evacuating a quantity of fœtid pus from an abscess in cerebral cortex. Discharge from ear has become purulent. Drainage-tube inserted and wound closed.

April 18th.—Temperature rising for several days; to-day 108.5°. Died at 8 P.M.

Head examined by Dr. Johnston 75 hours after death.—The wound above described was found bathed in pus. On removing stitches where the depressed internal table of parietal bone is exposed diploe has a granulating surface. The incision in dura mater had not united. Line of fracture extends downwards through petrous bone, which is splintered into many little pieces, thence across the lesser sphenoid wing and in front of the anterior clinoid process to the right orbital plate. In the left temporal fossa were two drachms of pus between dura and bone; a good deal of blood extravasated in this neighborhood. Pia mater, in this region and at the base, normal. In the cerebral cortex an abscess the size of a hazel-nut was found just beneath the supra-marginal convolution, which presented a small superficial slough. The abscess did not extend quite as deep as the roof of the left lateral ventricle. On sawing open tympanum, the cavity was found full of pus. The mastoid cells contained a little pus.

DR. FENWICK stated that he had put a stitch in the incised dura; would not do so again in a similar case.

DR. BULLER had seen a case some years ago; patient had been run over by a cart-wheel, by which petrous bone was fractured and several ounces of brain matter escaped through the ear. The patient recovered. Drum membrane was defective in upper and anterior part, and there was a marked deformity in meatus.

DR. FENWICK, in reply to a question by Dr. Buller, did not consider ecchymosis of conjunctiva pathognomonic of fracture of ethmoid bone. Thought tearing of small vessel in sphenoidal fissure might cause it in absence of any fracture of ethnoid, and cited cases where the ethmoid was fractured this sign was absent.

DR. RODDICK asked (1) if he would have opened the skull below the temporal fossa if he had known the state of damage? (No.) (2) If he would have operated in the same manner again?

DR. FENWICK said that he would, citing Banks' case where skull was drained and sinus had dried up.

Extirpation of the Uterus.—DR. WM. GARDNER exhibited a uterus removed by the vaginal method for cancer, and related

the case. A lady of 57 had consulted him a few months ago for continuous, slightly reddish, watery vaginal discharges, pain in the sacral region, and general debility. On examination, the uterus was considerably enlarged, measuring 4 inches in the depth of its cavity, retroverted, and quite moveable. The cervix, which was quite healthy, was dilated with a tent, and a quantity of friable outgrowth in the cavity detected and removed. No improvement in the symptoms resulted. A few weeks later total extirpation was advised, and performed a few days ago. The operation presented nothing unusual, except that after it was completed an embryonic dermoid cyst of the size of a small orange presented in the wound, and was removed. The patient made an excellent and speedy recovery. The specimen showed that the disease was strictly confined to the interior of the uterus. The case was therefore a typical one for the operation of total extirpation. Dr. Johnston, Lecturer on Pathology in McGill University, had made a microscopical examination, and pronounced the disease to be carcinoma, less favorable for non-recurrence than sarcoma, which it was hoped it might be.

Dr. Johnston thought, from its appearance, the cyst must have arisen from inclusion of a portion of the amnion in early fœtal life.

Dr. Hingston thought it was probably a piece of included fœtal membrane.

Ovariotomy during Pregnancy.—Dr. Wm. Gardner made a brief communication about a case related to the Society, with exhibition of the specimen, some three months ago. The case in question was one of ovariotomy performed on a patient suffering from symptoms of peritonitis. The tumor was a dermoid cyst, universally adherent, with twisted pedicle; washing out and drainage were resorted to, the drainage-tube remaining in the Douglas pouch and resting against the posterior wall of the uterus for five days. The patient made an easy and rapid recovery. At the operation the uterus was suspiciously bulky, softened, and vascular. The possibility of pregnancy certainly occurred to the operator, but was not seriously entertained. However, a few days ago he had an opportunity of examining the woman, and found her certainly pregnant about five months. In some particulars he thought the case unique, and well worthy to be placed on record. Ovariotomy during pregnancy without interruption of gestation has been performed a good many times; but uninterrupted gestation in spite of ovarian tumor with twisted pedicle and consequent severe peritonitis, and a complicated

ovariotomy with separation of adhesions, copious washing out and drainage-tube for five days, if not unparalleled, must be exceedingly rare.*

DR. HINGSTON thought it should not be an invariable rule.

DR. GARDNER thought that those operating largely were agreed that the danger of such operation was less than the danger from the tumor if left till full term. His course would depend from the date of pregnancy.

Fibro-cystic Tumor of the Testicle.—DR. RODDICK reported a case of fibro-cystic tumor of the testicle, and made some general remarks upon the subject of tumors of the testicle. He said: The specimen I show you is a diseased testicle removed a few weeks since. The patient, a healthy-looking young man of 24 years, was brought to me from one of the neighbouring States, having a history of a slow enlargement of the testicle, the duration extending over at least ten years. Thus the patient being only 24, there is no likelihood of its being syphilitic. So far as he remembered, the testicle was never injured. He had gonorrhœa some four years ago, and is now suffering from stricture. No history of inflammation of the epididymis or testicle during the presence of the gonorrhœa. On examination, the left testicle was found to be the size of the closed fist, very heavy, and generally firm to the feel. In one place in the front was a distinct spot of fluctuation, which led one surgeon to suspect hydrocele and to tap, removing about a drachm of blood-stained serum. The bulk of the mass, however, was very firm and fibrous in the feel. The cord is quite free and normal to the feel. The diagnosis was fibro-cystic disease. I advised removal. In the operation, at the first incision, the hydrocele fluid escaped. The usual mode of operating was modified; instead of ligaturing the whole cord, the vessels were tied separately. Thorough drainage was provided, and dry dressing of borated cotton and naphthol used. The patient was sent home in ten days. Dr. Johnston has given me the following pathological report:

"The specimens were somewhat gelatinous-looking, and not vascular. On microscopic examination, the main part of tumor consists of epithelial elements which do not appear to be growing, are gelatinous-looking, and are obviously seminal tubes, whose epithelial cells are degenerated on account of (?) the growth of a large amount of fibrous connective tissue which has in places undergone a similar degeneration to that of the epithelium, and the amount of which varies in different places. Without know-

* The patient is now (Sept. 6) daily expecting her confinement, and, except for complaint of pain in the loins, is in perfect health.

ing the history of the case, I thought from the specimen that it was a tumor growing out of an old orchitis. Should call it quite quite benign, with the single reservation that tumors arising out of inflammatory products have a tendency to recur. At all events, it has none of the distinctive microscopical appearances of a malignant growth· (Of course this statement only refers to the bits given me to examine, but I supposed the rest was of the same nature.)"

The name which I gave to this tumor, fibro-cystic disease, is, in my opinion, a good one for clinical purposes, although I am aware it is seldom employed now-a-days by pathologists. We have the pure fibroma (often an atrophied condition) and the cystoma described, but in my experience we get the fibrous element predominating to such an extent in some cases that we are justified in retaining the old name. I think that the greater the cystic formation, the more likely is the tumor to have malignant tendencies, and fibro-cystic tumors doubtless often degenerate in this way. Will this tumor? Dr. Johnston thinks it may. Unfortunately, the condition of the cord, while of some service in making a prognosis, is not always reliable.

Dr. Roddick then exhibited photographs of the patient before and after the operation.

DR. FENWICK spoke of the difficulty in prognosis after removal of such tumors. Even with the microscope it was not always possible to say whether it would return in the stump. He agreed with Dr. Roddick, except that he thought the two classes of tumors he described could look as like as two peas, and cited cases to prove it.

DR. HINGSTON urged the propriety of always giving a favorable prognosis in all cases of tumor of testicle where cord was not involved. As to detail in the operation, he thought Dr. Roddick's special procedure was the general rule. It was not necessary to attach the cord to the skin.

DR. RODDICK, in reply, stated that he had formed his opinion after referring to at least five leading authors, including Bryant. Had himself seen Bryant ligature *en masse*.

Sayre's Hammock.—DR. RODDICK also gave a demonstration of a modification of Sayre's hammock to avoid the danger of the jacket in applying plaster-of-paris jacket.

CANADA

Medical and Surgical Journal.

MONTREAL, OCTOBER, 1887.

THE SEXES IN CONTROVERSY.

A few months ago an article on "Brain-Forcing in Childhood," from the pen of Dr. Wm. Hammond of New York, appeared in the columns of the *Popular Science Monthly*. With the conclusions of this paper we think most physicians who have mingled with the duties of their ordinary practice any thought upon the educational tendencies of the times will in the main agree. However, Dr. Hammond having made some allusions to the brain differences of men and women, a redoubtable champion of woman's imaginary wrongs—in this instance the injustice done her by the writer of the article in question—has arisen in the person of Miss Helen Gardener. This lady, not content with having administered one dose of reproof and correction to Dr. Hammond in the columns of *Popular Science*, (to which the doctor replied in a moderate tone), has followed it by a second. It is generally believed that the gentleman she has so vigorously attacked knows something about the structure, functions and diseases of the nervous system. Miss Gardener admits, somewhat ungracefully, that she is not herself an authority on such subjects; but she wields as her weapons the statements of others,—rather, we should say, flings them at her male antagonist in forked-lightning style. She evidently intends that Dr. Hammond shall bite the dust, and having him down, well scourged, raw and bleeding, with abundance of salt and pepper rubbed in, to leave him a warning to others who may venture to question the structural equality of woman's brain or any other part of her. And then she tells him and us that we have not heard the last of this yet. O! ye gods!!

We do not know who Miss Helen Gardener is; but we sincerely hope she is not a type of the coming woman. Unquestionably the higher education of women is one of the greatest problems of this age. But, unless we are much mistaken, there are breakers ahead; and there may be some results fraught with evil as well as others equally abounding in good that we as yet scarcely dream of in this connection. Once bring men and women into keen competition for bread, for place, for honors, for power, and you break down the barriers Nature has set up, and tend to destroy those differences which she has taken æons to form. If men and women engage in public intellectual slugging matches the results are not difficult to foresee. There are now enough men, roused to the importance of giving the opposite sex every advantage necessary for free and full development, to plead woman's cause and see that she gets justice in the world, without women themselves putting on armour and entering the arena of public strife. All men of sense and sensibility must feel pained at such displays of rancour, pettiness and a host of other ill-definable, but very real and undesirable, qualities as that shown by the lady combatant in this case. We do not care to say who is in the right as to the scientific facts; nor do we hold up Dr. Hammond as a model controversialist. Our object is to point out that such exhibitions as these greatly injure the cause of woman and the cause of humanity.

By an odd coincidence there is in *Popular Science*, on the very next page to the concluding one of Miss Gardener's effusion, an editorial article on "Culture and Character," which breathes a very different spirit, and which we could wish to see taken to heart by every educational institution on this continent. We reproduce a portion of this article, regretting that we have not space for the whole:

"In this country we are laboring with great zeal and vast pecuniary resources to promote the cause of culture. We educate, educate, educate, as somebody once said we ought to do; but whether the result is to produce much that can be called culture in any high sense is an open question. A criterion may, perhaps, be found in a comparison of the rising with the now

adult generation. Are our young people showing graces of mind and character in more abundant measure than their parents? Are their aims higher? Is their language better? Are their intellectual occupations more serious? Are their manners gentler and more refined? We do not propose to answer these questions dogmatically; but this we say, that, unless there has been an improvement in these several respects, a vast amount of educational effort has not met its full reward. Speaking broadly, it seems to us that the culture of our educated classes, or of the classes supposed to be educated, leaves much to be desired, and we are disposed to think that one reason of this is that we have conceived of education in too purely an intellectual sense. We have thought more of sharpening the thinking faculties than of liberalizing the sentiments or softening the manners. We have introduced too much of rivalry into education, and represented education too much as a preparation for further rivalry in after-life. We have imparted knowledge, but have only to a very moderate extent succeeded in inculcating wisdom; and knowledge without wisdom seems poor, thin, and sometimes even meaningless. We need, as it seems to us, to devote more consideration than we have hitherto done to the question, What is the true ideal of human life?"

DONATION TO McGILL UNIVERSITY.

The Medical Faculty of McGill University has just received a valuable addition to its endowment fund from a member of its teaching staff. Dr. Cameron, Professor of Midwifery, has made over to the Faculty's Museum an extensive collection of plates, casts, models, instruments and anatomical preparations, intended to illustrate the branch in which he is interested. It is his intention to add yearly to the collection other objects which will keep it up to the most modern improvements. When complete, its value will be about $5,000. The Faculty has further received from Prof. Cameron a donation of $5,000, the interest of which will be annually expended in promoting in various ways the efficiency of the teaching in the same department. The University is to be congratulated upon the handsome gift and also upon this additional evidence of the keen interest taken in its welfare by its graduates and teachers.

THE INTERNATIONAL MEDICAL CONGRESS.

The first American meeting of the International Medical Congress, recently held in Washington, was, on the whole, a fairly successful gathering. Although the attendance was much less than at the great London meeting, it has fully equalled any of the other meetings of this body. The number of foreigners present was not at all equal to that of previous meetings of this international body, and was far less from what it was confidently expected to be, and, with the exception of a very few, there were no distinguished outsiders present. The most disappointing matter connected with the Congress, however, was the absence of the vast majority of those Americans who have made American medicine and surgery respected at home and abroad.

At present it is difficult to estimate the scientific value of the meeting. This cannot be done until the proceedings are published. This is promised before the beginning of the new year.

Dr. N. S. Davis of Chicago, the worthy president of the Congress, filled his position with ability and dignity.

The general addresses were in many respects of a high order. That of Dr. Austin Flint's on "Fever" was an able exposition of this subject, especially from the physiological side.

Prof. Semmola of Naples delivered a very thoughtful address on Bacteriology, which was listened to with marked attention.

The address of Dr. Unna of Hamburg on "The Relation between Dermatology and General Medicine was an able review of the importance of his special subject. The address is one which will well repay a careful study.

Out of the vast number of papers read, there are many no doubt of great and abiding interest, and which will prove that the ninth International Medical Congress was not held in vain.

CANADIAN MEDICAL ASSOCIATION.

We devote the greater part of our present number to a record of the proceedings of the late meeting of the Canadian Medical Association at Hamilton. The attendance was fully up to the average, but it was far short of what it might have been and of what

it should have been. Taking into consideration that in Canada there are fully four thousand practitioners, it does not speak well for them as a body to have no more than a representation of three per cent. present at a meeting purely intended for their benefit. The character and number of the papers read were fully equal to those of any previous meeting.

Dr. Graham, in his excellent address, touched on many points of deep interest to the profession. We sincerely hope that his words in reference to the importance of maintaining the Association in a high state of efficiency will be read and pondered by all medical men who have the cause of the status and honor of their profession in this country at heart.

The general addresses were a new and successful feature of the recent meeting.

It must have been apparent to all present at the Hamilton meeting that the traditional two days is too short a time to thoroughly discuss the papers promised. We hope next year to see the time extended to three full days.

The presence of Dr. Granville Bantock of London, of Dr. McGraw of Detroit, and of Dr. Osler of Philadelphia, added much to the success of the meeting.

PROVINCIAL MEDICAL BOARD.

The semi-annual meeting of the Provincial Medical Board was held at Quebec on the 28th September. A complete account of the proceedings will be given in our next issue. The chief matter of importance was the report from the committee charged with drafting amendments to the present Medical Act. A majority of the committee favored the establishment of a Central Examining Board, but a minority report from the representatives of the Protestant Universities expressed their disapproval of the contemplated change, and maintained the inalienable right of the Universities under their charter to qualify for registration. The same report also raised objections to the proposed alterations in the preliminary examination. The Board adopted by a large majority the draft presented by the committee, after making some amendments.

NOTES AND COMMENTS.

The re-establishment of the Faculty of Medicine of the University of Toronto is an event of importance in the history of the profession in Ontario. The original faculty was organized in 1843, and after an existence of ten years was abolished by an act of the Legislature. The new faculty is practically the Toronto School of Medicine with certain additions. It is interesting to note that it was the bitter opposition offered by the professors of the old faculty to the organization, by Dr. Rolph, of the Toronto School as an independent teaching body, which led to the failure of this early and most ambitious attempt to establish a government medical school. When the opportunity came, Dr. Rolph did not forget his opponents, and his powerful influence was sufficient to secure the abolition of the faculty. The principal changes are as follows: In Surgery, Dr. MacFarlane and Dr. I. H. Cameron are associated with Dr. W. T. Aikens, and will conduct the clinical work at the hospital. In Medicine, Drs. H. H. Wright and Graham have Dr. George Wright as Associate Lecturer on Clinical Medicine. Dr. U. Ogden has the chair of Gynæcology, and Dr. Adam Wright takes Obstetrics. Dr. Burnham has been associated with Dr. Reeve as Clinical Lecturer on Ophthalmology and Otology. Dr. McDonagh is Instructor in Laryngology, and Dr. Caven Demonstrator of Pathological Histology. The scientific branches will now be taught at the University: Physiology and Histology by Professor Ramsay Wright, Dr. A. B. Macallum, and Dr. D. McKenzie; Chemistry by Professors Pike and Ellis; and Physics by Professor Loudon and W. J. Loudon. This constitutes in reality the most important change which has been made, and adds greatly to the strength of the faculty. The new arrangement is certainly for the benefit of medical education in Ontario. Regrets have been expressed that a union of the two Toronto schools could not have been effected, either with the hospital or the university as the centre, but the Trinity school preferred to remain independent. There are students enough for both, and the stimulus of competition is always healthy.

The late John Flint South, well known to senior surgeons, devoted the evening of his life to collecting materials for a history of the rise and progress of surgery in England, but night came before he had completed his labor of love. The papers have been edited by Mr. D'Arcy Power of St. Bartholomew's Hospital, under the title "*Memorials of the Craft of Surgery in England*"; and Sir James Paget, to whom they were first

entrusted by the Council of the College of Surgeons, has written an introduction. From frontispiece to index the work is of rare interest—the story of the growth and evolution of the surgical craft from the days of the Saxon Leeches to the incorporation of the present Royal College of Surgeons. The records correct a very prevalent error that the surgeons were directly descended from the barbers. It is clearly shown that as early as 1368 the surgeons had formed a separate guild, and in 1540, when they joined with the barbers practising surgery and the Barbers and Surgeons' Company was incorporated, the union was only, as Sir James Paget says, "an official junction," and the Company had two sections, which remained distinct until the formation of the Surgeons' Company in 1745. The chief portion of the volume is taken up with the internal history of these companies, and long appendices give the various ordinances, regulations and charters. An exceedingly interesting account of John of Arderne throws light upon the state of the profession in the fourteenth century. He was a specialist in the treatment of fistulæ, and seems to have been remarkably successful. A long extract is given from his "*Of ye manere of ye Leche*," which shows him to have been a wise and observant practitioner, very careful of the reputation of his brethren. When asked of another "leche," he warns against detraction, "he that skorneth other men shall not go away unskorned," and advises that "he curteysly answere" "I have naught heard of him but good and honest." The fees which he charged seem exorbitant, when we consider that money at that time was at least twelve times more valuable than at present. For a cure of *fistula in ano* he asked forty pounds, with robes and an annuity for life of one hundred shillings!

A *vade mecum* of visceral surgery in verse, by Dr. Risorius Santorini, under the title "*Macte Lister Triumphator!*" may be warmly commended as an exceedingly safe guide. Our German colleagues excel in this sort of thing, and good common-sense advice on questions of operative interference in visceral affections may probably catch the student's ear in metre better than in prose. Here is an illustration of the way in which he refers to Hueter's case of *cure* of bronchiectasy by incision, which turned out to be tuberculosis:

Er (Mosler) hat mit Hueter schon vor Jahren
In Griefswald einen wunderbaren
Schulfall von Bronchiektasie
Kuriert per Lungenchirurgie.
Kuriert? Nun ja! wie kannst du fragen
Es trat ja *erst* nach hundert Tagen

Der exitus lethalis ein!
Und das soll *noch* nicht Heilung sein?
In Obductionsberichte fand
(Der Fall war höchst interessant)
Lakonisch sich als Diagnose
"Gestorben an———Tuberculose!"

In secondary gangrene and in bronchiectasy, incision is alone permissable *à la Fenger*. Of Cayley's suggestion to induce pneumothorax in cases of profuse hæmoptysis, the advice is "Halt dich von solchem Humbug frei." On cardiac surgery, as practised by Westbrook and recommended by J. B. Roberts, his strictures are severe:

Mich, Freund, sollt's *gar nichts* Wunder nehmen.
Wenn sie—nach *solchen* Yankeestücken
Die "Wissenschaft" demnächst beglücken
Mit Vorhofsresection nicht nur,
Auch mit Aortaligatur!

The little work is, indeed, a "feuchtfrölich-antiseptisches vade mecum," very well adapted "fur den strebsamen modernen Arzt."

Ex pede Herculem! Three doctors' cards—genuine. Such was the inscription which I saw on an envelope the other day in a doctor's office. The cards were—(1) *Dr. A. S. Brown*, size 3 by 1½ inches; (2) *Dr. S. S. Smith*, 800 Commonwealth Ave., New York, size 4 by 2; (3) *Dr. Seth Jones*, 50 Eagle street, Rochester, size about 5 by 3, with gilt and indented edges. At the top, several specialties indicated; below, office hours and telephone number.

Professional custom in cards, as in door-plates, varies in different regions. The English physician has usually his name alone, sometimes the address of house or club. The cards of continental and American physicians are usually larger, more boldly printed, and on the former we very commonly see the titles or the official positions. Such a card as No. 3 stamps the man as on the borderland, or already in the wastes, of quackery. I allude to the subject because last year I saw the card of a recent graduate which was nearly as large and *loud*. I was interested enough in his welfare to refer to it, and he assured me that he had erred in ignorance. I believe this is often the case, and it is just in these, apparently trivial, details of professional etiquette that we allow our graduates to go out without any instruction. The final students in every college should have the benefit of a short course of lectures on medical ethics and on the business and legal relations of the doctor. The plan was adopted last year at the University of Pennsylvania.

WILLIAM OSLER.

Obituary.

WILLIAM STEPHEN, M.D.—We have with much regret learnt of the death of Dr. Wm. Stephen, formerly of this city. Dr. S. was a graduate of McGill University, and a gentleman of high education and good attainments. After practising for some time in Montreal, inducements of a very promising nature were offered him to remove to the Argentine Republic. After spending a year in Vienna, he settled in Rosario, near Buenos Ayres. Here he became very popular, and was in the enjoyment of a large and lucrative practice. By some accident, when stepping upon a car, he fell, and was fatally injured. A bright and promising career has thus come prematurely to an end.

ALONZO CLARK, M.D., LL.D., died at his residence in New York after a long and painful illness, aged 80 years. Dr. Clark was for many years Professor of Pathology and Practical Medicine in the College of Physicians and Surgeons. For a long period he occupied a leading position as a consultant. He was widely known as a strenuous advocate of the use of very large doses of opium in peritonitis. This practice, however, never became popular, and at the present time it may be said to have very few supporters. Dr. Clark was an able and eloquent lecturer. He has left a name and an influence that will not readily die.

Medical Items.

—Lea Brothers & Co. of Philadelphia make the important announcement that, beginning with the year 1888, the *American Journal of the Medical Sciences* will be issued monthly. This great quarterly has been for more than half a century the leader and exponent of medical progress in America. The enterprising publishers, recognizing the spirit of the age, have determined that in future, as in the past, it will continue to occupy its worthy position.

SUCCUS ALTERANS IN RHEUMATISM AND SYPHILIS.—We are reliably informed that the preparation Succus Alterans (McDade) is becoming a very popular remedy with the profession, and being very extensively prescribed in general practice as an alterative tonic, aside from its use in syphilitic diseases. The good results from its use in treatment of rheumatism, of chronic character especially, is worthy of consideration. The remedy is certainly growing in favor, and as no great claims have ever been made for it, but simply placed upon its own merit, we think it could possess no higher recommendation.—*Indiana Med. Journal.*

CANADA

MEDICAL & SURGICAL JOURNAL

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Original Communications.

INTRODUCTORY LECTURE AT THE OPENING OF THE FIFTY-FIFTH SESSION OF THE MEDICAL FACULTY OF McGILL UNIVERSITY.

By Sir James Alexander Grant, M.D., F.R.C.P., Lond., &c.,
Consulting Physician, General and General Protestant Hospitals, Ottawa City.

Gentlemen:—It is certainly a cheerful sign of the times, and a most encouraging one, to observe the deep interest taken in the medical department of this college. The position of responsibility and trust in which I am placed here to-day, in my Alma Mater, is an exceedingly pleasing one, and more particularly so, as it brings with it the very gratifying duty of an address. During the years which have passed since I left the halls of this university, many and important changes have taken place. Holmes and McCulloch, Hall and Bruneau, Fraser and Scott, Sutherland and Campbell, have all passed away, and in doing so, left a noble record of their works in the education, at this fountain of science, of many who at present are guiding and directing the best interests of our noble profession in this country. True, since even their time, medicine has undergone many and important changes which require the fullest possible consideration. The recent discoveries of Pasteur and their practical application mark the present as an era of more than ordinary interest in scientific research. In almost every department of the profession of medicine new discoveries are coming to light, and such as cannot fail to prove of immense benefit to suffering humanity. As Grant Allen expresses it, " ours has been an age

of firm grasp and wide vision." In the pride of our hearts we forget for the most part how very young science still is. Outside of our profession, in the vast domain of collateral sciences, we also trace strides alike indicative of the march of intellectual progress. Astronomy advanced furthest when our age was still young. Geology had then only just began to take shape and form as a science, surrounded by absurd theories and inaccurate data. In this department the name of Logan is closely allied with a period of great advancement, as far as Canadian geology is concerned. He was a warm friend and supporter of McGill. In this same branch of science, few men have accomplished more than the present respected principal of this university, whose name is associated with many of the greatest discoveries made during the past quarter of a century in geology and palæontology. Among the separate sciences, many remarkable advances have been made which have formed the very basis of the principles and the education of those now entering upon the study of the medical profession. Of these separate departments of science, few have been marked with greater indications of progress than electricity. The telephone, the microphone, and the electric light have aroused an interest widespread in its character, and these, in addition to the telegraph and Atlantic cable, have given an impetus and force to thought quite sufficient to identify and stamp the present as a time remarkable, beyond computation in the progress of intellectual development.

Present on this occasion, it is gratifying to observe the large number about to enter upon the study of medicine, and it must be a great source of encouragement to be aware of the fact that you are about to be educated, as Sir George McLeod recently termed it, "under the new dispensation." Now-a-days the scientific physician is more disposed to observe closely the operations of nature and to *trust less* to art in the cure of disease. The skilful co-operation of these forces gives an impress to progress in medical science, hence the advantage to be gained in an institution like McGill, where every opportunity at home and abroad is embraced in the way of scientific research to assist the student in obtaining such a knowledge of the various branches

of the profession as will enable him to discharge with credit the responsibilities devolving upon him when in the ranks of professional life. Such assemblages as the present are not without their value. The presence of the teachers might be accepted as an earnest of their desire to fulfill the varied duties they have undertaken to perform, and that while they devoted themselves to their pupils' interest, they expected in return the most lively co-operation possible during the prosecution of their studies. At present in this audience are two classes of students—those who are now commencing or still prosecuting studies, and those who are about to turn the instruction received to practical account. The chief and the important object in view in attending medical lectures is to gain information and store it up for future use in the varied paths of medical life. This is a critical time in your fortunes. Knowledge is not only power, but it is pleasure; such was the opinion of Bacon, the prince of all philosophers. Great men have been amongst you, and it is your happiness that some of them are still with you. It is not an uncommon thing for local reputations to have no national recognition. It is not so with the head of this institution, who is honored and respected amongst his fellow-men, and has recently filled one of the first scientific positions in the world as President of the British Association for the Advancement of Science. These are facts, gratifying in the highest sense, inasmuch as such places filled by native-born Canadians is an evidence of the progress of our age and in this not the least uninteresting of the colonies of the British Empire.

Let me here remark that in my humble opinion the very first step for a student of medicine is *the acquirement* of a good general education prior to entering upon the study of the profession. This has been found a difficulty in the past, but through varied educational facilities now at the disposal of the youths of our country, a good practical education, embracing classics and literature, can be acquired. It is to be hoped the day is not far distant when those entering on the study of medicine will be required to take the degree of B.A. 'Tis true the professions are becoming crowded, and, consequently, those who wish to

attain eminence must become most proficient in all that fits a man for the highest stations in life. In order to command the respect of society and maintain the dignity of the profession, the medical man must know more than the mere practical duties of his calling. He ought to be the equal in point of general education of his associates in society. Thus he is enabled to uphold the dignity of his profession, which in time, by the adoption of a lower standard of education, would reduce one of the noblest callings of life to a level not even dreamt of in the remote days of Hippocrates. The life of the medical man is that of an every-day student. The term of study and observation is being constantly exemplified. The student in college will also be the student in practice. The foundation now placed will carry its appropriate superstructure. Human knowledge is never stationary: its very essence is progress. Theories accepted to-day may in a short time be disproved by additional scientific enquiry. Every day's experience will give you new and varied facts, and you must not rest satisfied with any fancied idea of perfection. Increase your knowledge and add to it daily, and even then times will arise when the difficulty of defining the varied manifestations of disease will be self-evident.

To the junior student let me say, be careful as to your habits of life; prudent as to diet; retire to rest at regular hours; take occasional physical exercise; retain the proper balance of mind and body. The duties of after life require a sound and vigorous constitution in order to enable the medical man to grapple with the varied surroundings of life. Under such circumstances, it is most essential to see carefully to the requirements necessary to promote a healthy condition, mental and physical. The "*mens sana in corpore sano.*" How frequently, by neglect in these particulars, some of our brightest students deprive themselves and the country of their valued services. Think for yourselves and much trouble will be overcome. The habit of thought and reflection is a great factor in the success of life. The time was when students were not thus credited, but now-a-days the contrary is the case. While you carry bare facts in your memories, think carefully over the results likely to

flow from an accumulation of such information. Medical knowledge is a sacred trust placed in the hands of every student for the benefit of mankind. In proportion to the care bestowed upon the elementary branches of medicine, so will you be able to master, with a greater degree of accuracy, the final subjects which complete your course of academic study. A want of due care and attention at first is very difficult to make up for afterwards. Let no student deceive himself in this particular. There should be an earnestness of purpose, thus in many respects defects in early education and even lack of genius would be overcome. As Socrates stated over 2000 years ago, "The best man and most beloved of the gods is he who, as a husbandman, performs all the duties of husbandry; as a surgeon, those of the medical art, in political life, have duties towards the commonwealth; but the man who does nothing well is neither useful nor agreeable to the gods," or as Sir John Macdonald has expressed it, "his usefulness is gone."

"Whatever thy hand findeth to do, do it with all thy might; work while it is day: the night cometh when no man can work."

What was it made Xavier and Schwartz as missionaries, Bunyan and Wesley as teachers, in their particular lines of thought? What was it rendered so dear the names of Newton and Milton, of Arkwright and Stevenson? What was it that has made us love and cherish the names of Harvey and Hunter, of Syme and Simpson, of Trousseau and Lænnec? It may be summed up in the few but expressive words, *earnestness of purpose.* Be vigilant, then—be careful—be prudent; do not take too much credit to yourselves, for you are only the instruments in the hands of a wise Providence for the accomplishment of a good purpose. It should be your ambition to imitate your great and renowned predecessors, men who shed light and lustre upon their callings in life, and by their earnestness and simplicity of purpose endeared themselves to all with whom they came in contact. The rewards which the medical profession holds out are not those of high place or great emolument. With care and prudence a moderate competence is certain, and you will have the society of warm and attached friends, who will sympa-

thise with you in your troubles and give you a helping hand in the time of need. You will come in contact with all classes of society, and let your earnest endeavor be to perform the honorable and responsible duty entrusted to your charge in such a manner as to reflect credit on yourselves, the profession, and your "Alma Mater." This programme is well in its way, says the average student, but what is the most certain method of securing success in after life? Having mastered in a measure, and as far as possible in the specified time, the primary branches of study, the next most important step is towards hospital and clinical work. In this direction you will lay the foundation which, if carefully followed out, is most likely to assist you when left to yourselves. See carefully, then, to the cases brought under your observation. Take notes of the various points dwelt upon in the clinics. Let no fact, however trifling, escape you. Thus by degrees you will acquire *accuracy* in describing the life history of each case, and with satisfaction be able to form an opinion as to the future prospect of your patient. Familiarize yourselves with the principles of therapeutics. Be accurate in compounding medicines; observe carefully their action on the system, and embrace every opportunity of writing prescriptions so that chemists in compounding may make no error on that account. After writing a prescription, read it over again carefully, and be specific in directions as to its use. The summer courses in medicine at the various hospitals is certainly a step in the right direction, as, in my opinion, medical training cannot be too clinical in its character. Sir Andrew Clarke made his reputation by examining every case thoroughly, no matter how trivial, and if medicine was not necessary, a diet list was prescribed, which could not fail to attract the patient's attention, to the vast importance of not violating the laws of nature. This eminent authority scans the very "*warp and woof*" of human structure, and defines almost at a glance the *weakened fibre.*

In the midst of clinical work, no line of thought is more important than the physiognomy of disease. To the medical man it is a constant field of observation. Years of labor and application are necessary to develop this power, and in even a mode-

rate degree it becomes a great factor towards success in professional life. Syme and Simpson possessed it in an eminent degree, and, in fact, this form of education, which with some might almost be considered as *intuitive* power, has contributed greatly to the reputation of many illustrious members of the medical profession. The physiognomical diagnosis of morbid constitutional states has been ably discussed by Laycock of Edinburgh. It is this form of knowledge which comes to the surface, and often very remarkably, with trained nurses. External indications cannot always be relied upon, and still such are of vast importance, as pointers for future observation. The staining of jaundice, the tints of hectic, the eruptions of exanthematous fevers, the suppressed breathing of pleurisy, the orthopnœa of cardiac diseases, the pigmentation of Addison's disease, and numerous other external manifestations of internal systemic trouble are all important as factors in arriving at either a diagnosis or prognosis of the malady. The experienced eye only comes about gradually, and well directed study is necessary in order to be even moderately proficient in reading the outward developments resulting from defective systemic action and reaction. The young physician who possesses even in a moderate measure this faculty has a lever of success in his hands far superior to any purchased practice. To our yonng friends I would say, study diligently the physiognomy of disease, as much valuable information will result therefrom.

To a few points of special interest I desire now to call your attention. Wherever you settle in practice, observe carefully that particular locality, its physical peculiarities and the bearings of such with reference to the development of disease. Thus you will in time accumulate much valuable information. When called to visit a zymotic case, enquire closely into the question of plumbing, drainage, water and food supply. Thus the causes of such diseases as scarlet fever, typhoid fever, diphtheria, etc., may be ascertained, and much practical good accomplished towards arresting their spread. The neglect of sanitary science in many of our centres of trade and commerce is doubtless a prolific source of the remarkable mortality recorded in our

present mortuary statistics. Action in this direction marks the prudence of the medical man, gives confidence to the public as to his professional ability, and advances the interest of the state by the proper regulation of such defects as are found to exist in carrying out the principles now being formulated by Boards of Health in various parts of Canada. In this direction the present *Canada Health Journal* is accomplishing a good work, and I trust the day is not far distant when the Dominion Government will see the necessity of establishing a Bureau of Health and Statistics such as that now approved at Washington. Thus a progressive measure would be inaugurated, and one which could not fail to save annually thousands of valuable lives. We yearly expend considerable sums of money in bringing emigration into the country, but what could possibly be more noble and philanthropic than to stay, by active measures, the present marked emigration out of the country by infantile mortality. This is a question which requires the closest attention, and let the proper authorities see to it.

There is one other point to which I wish to allude briefly, as much good can be accomplished in that direction. At present the subject of early mental training is occupying considerable attention on both sides of the Atlantic. Wherever you locate, there will most likely be some form of educational institution, and the little inmates may require your professional care and guidance. At present, the multiplicity of subjects crowded into a short period of time, and expected to be carried in the cranial cavity, are more than sufficient to make the heads of families pause before subjecting their children to this form of over-brain taxation. This subject cannot be too carefully thought over. No part of the human body endures less strain than the tiny brain—soft, pliant and pulpy, yet sparkling with evidences of intellectual activity. The period of youth is the child's sunshine, and frequently the very exhibition of natural gifts stimulates the parent to subject the child to a course of over mental strain, such as may render dull in after life those active germs of mental growth, and even thus sap the power of physical organization as well. Our prize animals are not used as dray horses until

properly developed. Time is necessary, also, for the proper mental and physical growth of the rising generation. The expansion of brain tissue, above all, should not be overtaxed by excessive burdens in the way of brain cramming. No two faces in the whole human family are precisely alike, and the same diversity exists as to brain power and brain capacity. Let us be natural, and exactly what a kind Providence made us. This age is one surrounded by great evidences of progress in science, in literature and in art, and the great masters in any one of these departments of thought were not overtaxed in the period of youth by mental strain. The men to-day who guide and direct our Dominion have not had the common-sense educated out of them. Well directed mental training is certainly necessary, and to be of practical utility in after life, too much care and attention cannot be bestowed on the education of the young, who will in time be called upon to occupy important positions in the varied paths of life's duty. To our young medical men we look for careful observation in this direction, in which much useful and practical work, in the way of reforms, may be brought about. Our Canadian children compare favorably with those in any other part of the world, as far as intellectual activity is concerned, and our aim and object should be to preserve the gifts of nature, glowing with more than ordinary lustre around the cerebral thrones of a rising generation. The more closely this whole subject is thought over, the more attention will it attract. The addition of a work-room to each public school, where children might employ even half a day in each week in making various articles in wood used in every-day life, would greatly encourage them in study, turn their practical genius to account, and, in a new country like Canada, with a great North-West, render them better able to grapple with the varied viscissitudes of life. Mental and physical training thus combined would give force and vigor to the system generally, and draw out the special aptitude of many for particular lines of duty. There is no more useless member of society than he who knows everything and can do nothing. At the present time it is necessary to be prepared for any emergency, and education should be so directed as to achieve

the most practical results, while at the same time the varied advantages of our educational institutions are being utilized compatible with the principles of health.

To our young men I would say, be interested yourselves, and in all such matters you will interest others. When you have anything important, the public will not fail to give you attention. Speak with all your heart, and ears will gladly listen to your observations. The surprise power will generally attract some attention. Keep on with common-place affairs, and no particular interest is aroused, but, as Spurgeon advised, "*give the very cradle a jerk*" in which the public mind slumbers, and every nerve is strung to ascertain what next. It is self-interest which thus quickens and sharpens our senses and gives a lively turn to passing events.

In conclusion, I would say, let our young medical men protect their fellow-practitioners, and avoid quarrels and petty jealousies. Let us not be called "the jealous members of the conjectural art." We have a noble profession, with the prospect that by industry, honesty and perseverence, sooner or later, worldly success will follow, and a noble-minded physician is one who, in all he does, feels himself to be the student of God's works.

This jubilee year of Her Majesty has added in a remarkable degree to the future educational prospects of the Medical Faculty of McGill University. The princely gift of Sir George Stephen and Sir Donald A. Smith to found a new hospital in this city for all creeds and all nationalities marks in an undoubted manner the progressive development of our country and the liberality of our people. Their names will be handed down to posterity as noble benefactors of their day and generation.

Before resuming my seat, I desire to thank in an especial manner the Dean and other members of the Medical Faculty for the marked consideration shown in affording me this opportunity of tendering a few words of advice to our young men, who are no doubt proud of the distinction of being medical students and alumni of this University.

ADDRESS ON OBSTETRICS BEFORE THE CANADIAN MEDICAL ASSOCIATION.

By F. R. Eccles, M.D., London, Ont.

Animated by a desire to promote the interest of this Association, and feeling the obligation which rested on me as a member thereof, I consented to open the discussion in the department of obstetrics and gynæcology. Soon thereafter I recognized the responsible position in which I had placed myself, and began to sorely repent my rashness. But the consciousness of the liberal-mindedness of the members of the Canadian Medical Association assured me that in an honest endeavor to discharge a self-imposed duty, I need not look in vain for their kind indulgence.

I was anxious to present to this Association some subject in connection with this department which would not only be interesting to the specialist, but to the general practitioner as well, as the general practioner largely prevails in this young country of ours. I have therefore selected so commonplace a subject as *Subinvolution of the Uterus*, not more on account of the frequency of its occurrence and the not unfrequently more or less unsatisfactory results of treatment, than the personal desire to obtain the views as well as the experience of a great number of those present. And even if the observations, clinical research and line of treatment of so many here, who are more competent to speak upon this subject than I am, shall not bring out any great advance, I shall nevertheless not regret the introduction of the discussion. If no new remedies are brought forth, no specially different lines of treatment are advocated, still if we catch the inspiration to the proper use of remedies well known, I venture to say that the time is not misspent. Because of the prevalence of this affection, so much the more has it enjoyed the mind of the general practitioner, and in many instances is looked upon as the opprobrium of an art. "Sir, thou hast nothing to draw with, and the well is deep." I use the term "subinvolution" in preference to any other name, such as areolar hyperplasia, chronic metritis, etc., and for two reasons. It conveys in its meaning a fact that there has been an arrest or re-

tardation of all those normal and physiological changes which are embraced under the head of involution, and, secondly, one is free from those mists and obscurities, those suppositions and hypotheses, where an honest endeavor to give a name according to the pathological condition of the parts obtains. For one hears of areolar hyperplasia, chronic metritis, hypertrophy of the uterus, sclerosis of the uterus, chronic parenchymatous inflammation, or chronic corporeal parenchymatous inflammation, diffuse proliferation of connective tissue, diffuse interstitial metritis, etc., etc., all of which indicate to the thoughtful student that further elucidation of the nature of the pathological changes of this condition may yet be expected.

As eczema in its early stages differs from eczema in its later stages, and as the pathological conditions of hepatic cirrhosis in its early stages differ materially from those noticed in the latter stages, so we often find the subinvolved condition of the uterus frequently presenting variations consequent upon the duration of the ailment, although I believe this is not invariably so. For this reason, more than from natural conservative tendencies, I would retain the old familiar term " subinvolution."

We understand by this that there has been a failure to undergo sufficient reduction in size after delivery or abortion. I infer that something has prevented the ordinary changes incident to the retrograde metamorphosis from taking place, which in the short space of six or seven weeks reduce a uterus of 24 ounces to two ounces. Nature intends a proper and rapid reduction of this organ. How, then, is it that we have this ailment occurring so frequently ? That there are known or unknown causes—avoidable or unavoidable—which prevent involution will not be denied. The art and science of medicine are not only to relieve symptoms and remove morbid conditions, but to worthily stretch out into other and more philanthropic fields ; and now in all civilized countries preventive medicine is occupying a prominent place.

After delivery, gradual diminution of blood supply and an increasing activity of the processes of absorption bring about involution of the uterus. But amidst unfavorable circumstances

the ordinary retrograde metamorphosis undergoes some departure from health.

I shall endeavor to present to you some of those unfavorable circumstances or influences, the prevention of which will largely contribute towards the normal involution of the uterus. And first amongst those unfavorable influences is fever. An elevated temperature, whether it be from specific fever or septic causes, or inflammatory changes interferes with general nutrition, and to a marked extent is this the case with the uterus following parturition. Recall to your minds some of the peculiarities of the muscular tissue, of which the uterus forms a good example. Arrest of the function is followed by little or no atrophy, whereas exaggerated action leads to hypertrophy to a marked extent. Irritation of the nerves supplying these muscles has less influence on the contraction of their fibres than direct excitation of the muscles themselves, and regeneration of their fibres takes place rapidly; in marked contra-distinction to the voluntary muscles, the structure of which is not easily restored. In reference to the uterus itself, there is no organ in the body which so readily responds to irritation. The presence of a myoma deranges its vascular supply and leads to hypertrophy. So will a contracted os or a flexed cervix, because resistance is offered to the passage of the blighted elements of the lesser reproductive process. Pregnancy so stimulates the nutritive activities, that an organ of 12 or 14 drachms increases to twice as many ounces during the short period of a full utero gestation, while the inverse process is accomplished in the marvellously short period of six or eight weeks. Our attention should therefore be directed to the uterus in all cases where fever has occurred during the puerperium; *very frequently we will find arrested involution.* Then inflammatory attacks occurring in the body or neck, or in immediate connection with the uterus, as in pelvic peritonitis or cellulitis, may be looked upon as unfavorably influencing retrogression; these are the cases in which one may expect to find subinvolution present.

A lacerated cervix or a lacerated perineum, or any serious injury to the vagina, is now known to arrest involution, not only of the uterus, but of the vagina often.

Then there are cases of general debility—impoverished blood —an enfeebled and disordered state of the nervous system, where the nutritive processes are below par; where there is muscular atony, and consequently but feeble rhythmical contraction of the uterus. In all these cases, one almost invariably finds involution retarded. And these are the very cases where the mother is considered unable to nurse her child; and consequently the stimulus to reflex action, which is an important factor in the production of uterine contraction, is lost—a not unimportant point to remember in all cases of abortion. The retention of any portion of the secundines, displacements, prolapses and flexion, keep up a state of hyperæmia which interferes with involution. My experience, however, leads me to believe that displacements are more frequently the effect than the cause of the ailment. The weighty uterus is not so easily steadied, and hence topples over, and generally in the backward direction, perhaps being first influenced in that direction by a distended bladder. Other unfavorable circumstances influencing involution are post-partum hemorrhage, neglect to empty the rectum once in 24 hours, a too early resumption of the upright position, or any local cause whatever productive of venous obstruction. With the knowledge of all these circumstances the physician stands as sentry on guard, and who can say in how many instances disease has been averted, and the physiological changes incident to involution have gone on without let or hindrance. The prevailing idea amongst the laity that the patient should be up and about on the ninth day is productive of no little harm. At times it requires considerable firmness on the part of the physician to break down these old-time prejudices. I look upon too early getting up of etiological importance in connection with subinvolution.

There are certain accidents which frequently occur in connection with subinvolution. For instance, a subinvoluted uterus is liable to prolapsus—liable to displacement. Indeed I very frequently find, with subinvolution, retroversion or retroflexion, or both, with the ovaries dragged down, enlarged and tender; and in not a few instances I have been enabled to detect a vari-

cose condition of the veins of the ovary. In the majority of cases, these are results of subinvolution—conditions which, although relieved, are liable to return after subsequent pregnancies. Hypertrophy and elongation of cervix are often present.

As far as symptoms are concerned, I think it almost impossible to determine that subinvolution exists. Indeed there are no pathognomonic symptoms, and there are many symptoms in common with other uterine diseases. If there is one symptom to which I attribute more importance than another, and one which more frequently occurs, it is the sense of pressure on the top of the head, just about the position of the anterior fontanelle. Some patients speak of a burning pain there, others as if they wanted to press their head against something, while others will tell you of a sensation there so unbearably distressing that they believe they will go mad. This is a symptom I have noticed as being not unfrequently present. I do not remember this as a symptom noted by any author, but it is one I have recognized for the last 15 or 16 years. Oftentimes the patient consults you only on account of the headache, and will tell that it is not at all like the headache from stomach derangement, neither is it like neuralgia, but incomparably more unbearable than either. Then in old standing cases, where the headache of this character has been more or less persistent, there comes in the current of the history, fits of melancholy, and, indeed, the patients will volunteer the statement that her usual jollity has given place to irritability, by which she really means mental depression. Close observation will often detect an anxious countenance. Catching this anxious and frequently sallow countenance, I often feel pretty certain of my diagnosis before the patient is rightly seated in my consulting-room. With many of these poor women how wearily the day passes, and without a ray of sunshine to brighten their path. To make better their body—to cure them of their ailments, is really to regenerate them—is to change a saddened countenance into one expressive of gratitude beyond any pecuniary consideration.

Now a great deal has been written about mental depression and tendencies to insanity in cases of laceration of the cervix

of long standing, but I have frequently seen the same symptoms in subinvolution, unaccompanied by any laceration. When you cure the subinvolution, whether it be accompanied or unaccompanied by a lacerated cervix, you cure the melancholy and headache as well, and in general all the other symptoms. But some of these cases cannot be cured with any medicinal agent, either by internal administration or local application, but by some operative procedure, of which I will have occasion to speak. Recent subinvolution will always be characterized by more or less menorrhagia, and in not a few instances those also of long standing. The inference from a clinical standpoint is that the condition of the uterus in those latter cases always remains much the same. One who has at all carefully observed his cases of subinvolution will have noticed some of long standing, which, aside from the history, would appear to have been cases of only recent date, cases in which the uterus, body and neck, still remains soft and large, while others present the sclerosed condition, in which the menstrual discharge becomes scanty. Upon examination, we often find a patulous os and open canal, with considerable enlargement of the uterus. The enlargement is evenly distributed and is readily made out by the bimanual method and confirmed by the sound, which may pass from three to five inches. Excluding pregnancy and abnormal growth, the enlargement in conjunction with the history will seldom fail to establish the diagnosis. There is in general an increased sensitiveness about the uterus, more noticeable when you endeavor to raise the organ up than when you press upon it from above; and more especially is this the case if it be retroverted or retroflexed. In all such cases dispareunia is a prominent symptom; unrest and an aggravation of symptoms follow cohabitation. I am always suspicious of retarded or arrested involution, where the history of illness dates from labor (either at full term or premature), where it is accompanied by menorrhagia, and especially if menorrhagia occur during lactation. Whatever may be the direct cause, I suspect involution. Then I confirm my suspicions by a diagnosis made negatively; that is, as far as possible, by eliminating the possibilities. Careful physical exami-

nation, with the information already obtained, will in general clear up all doubts about the case. In a few cases we find that the menstrual flow, from its first reappearance, is scarcely beyond the normal, and yet there is marked subinvolution. It will generally be observed in these patients that lactation exercised a sufficient influence to prevent menstruation until some nine or ten months after the birth of the child. I have a patient under my care now (who recommenced menstruating when her child was nine months old, and who continued to nurse the child for five months longer), in whom menstruation has been normal since its first reappearance, now some fifteen months ago, and yet her uterus is large and heavy, measuring quite 3½ inches. In the great majority of cases it is not so, and in recent cases of subinvolution more or less menorrhagia may be looked for.

The treatment of subinvolution differs materially according to the conditions present. When one finds the uterus enlarged, soft, and relaxed, feeling very much like the uterus in the second month of pregnancy, it is noticed that this condition responds very readily and promptly to treatment. The chlorate and bromide of potassium, with ergot and quinine, are amongst the most useful remedies. Two grains each of ergotine and quinine, given three times a day, with 25 or 30 grains of bromide of potassium at bed-time, will in general promote involution. It will be materially aided by douching the cervix with a gallon of hot water night and morning, to the last pint of which I generally add one drachm of borax or alum. If the recovery is not prompt and the cervix looks congested, I scarify it, make applications of iodized phenol or Churchill's tincture of iodine to the endometrium at intervals of ten or twelve days, painting the whole vaginal cervix at the same time. I do this whether endometritis be present or not, and I am satisfied involution is promoted thereby.

It is unnecessary for me here to mention that any displacement should be rectified as soon as possible, as I have before intimated that this accident superimposes an additional element of venous congestion. But when the condition of the uterus becomes altered, and we recognize hardness of tissue, we find a

more obstinate resistance to treatment. These are the cases which have run on for months and even years with little or no treatment, beyond tonics and laxatives; and these are the cases in which we find extraordinary nervous symptoms developing themselves. Unfortunately a number of those cases will never fully recover, but their condition may often be so ameliorated that they may pass the years to the menopause with comparative comfort. In addition to the line of treatment which has just been advocated, and which must be carried out very vigorously, I am in the habit of applying nitric acid to the whole endometrium, after the manner of Atthill, when the carbolic acid, iodized phenol or tincture of iodine fails to produce a healthy condition of the mucous membrane. The application of the various caustics has a two-fold purpose—*to establish* a healthy condition of the mucous membrane, and *to whip* the uterus into contraction. Undiluted carbolic acid is a very safe and almost painless caustic, if care is exercised in not allowing any to trickle down into the vagina. If after a satisfactory trial of this treatment no very marked benefit be produced, I have tried dilatation of the whole cervical canal to the extent of an inch or more, endeavoring in this manner to produce a strong impression upon the uterus. In one case in particular I believe I obtained much good. As this is an operation not fraught with much danger, it can readily be tried in obstinate cases. But I can recommend with much more hope of success, removal of a portion of the cervix. In a number of my early trachelorrhaphies, I was surprised to find what a marked impression was made on the nutritive activities of the subinvolved organ. In one of my first this was especially noted. The uterus was large, retroverted, somewhat prolapsed, and the cervix lacerated into three sections, and the symptoms of backache and dragging pain were so unbearable that the poor woman had been an almost helpless invalid for three years, with all the nervous symptoms which accompany such a condition. In addition, there was a laceration of the perineum almost back to the rectum. In this case I was associated with Dr. Edwards of London, and operated April 24, 1881. The uterus rapidly diminished in size, and the woman bloomed into health in a

manner wholly surprising to her friends and medical attendants. In a short time after her return home, she attended to all her household duties connected with a farm, and in a letter to me some ten or twelve weeks afterwards, refused to come back to have the perineum repaired, saying "as long as I feel as well as I do now I will not have the other operation done." Diminution in tenderness was as marked as diminution in size. As I mentioned, the cervix was lacerated into three segments, one small and two large. The small segment was entirely cut away and the operation thus converted into a bilateral one. I was strongly impressed, aside from the mere stitching up and healing of the cervix, that the operation should have produced such an impression upon the uterus as to start up afresh the nutritive activities which had been arrested some four years previous, and thus involution was brought about.

Another case of subinvolution, without any laceration of the cervix, in which I was associated with Dr. Fraser of London, in which the uterus was so large and the menorrhagia so profuse that some considerable doubt was expressed as to whether there might not be a fibro-myoma in the walls of the uterus. The patient was much exhausted from repeated periodic hemorrhages and was incapacitated for work. She had the best of treatment, both constitutionally and locally, but with only temporary benefit. I saw her on Oct. 16, 1884 (uterus then 4½ inches), when we agreed that removal of the cervix would afford the best chance of recovery, might wake up the uterus, as it were, and accordingly on Nov. 8th I removed it with the écraseur and scissors, using the Paquelin cautery to restrain the hemorrhage. It was completely healed in four weeks, and the improvement in the general condition was uninterrupted. The menses became regular both as regards time and quantity, and has remained so up to the present. I asked Dr. Fraser to examine the uterus, which he very kindly did on the 29th inst., Monday of this week, and his report is that the body of the uterus is normal in size (measurement 1¾ inches), menstruation normal, and her general health good. It will be remembered that she had a long course of treatment, of applications of caustic to the uterus, ergot,

quinine and strychnia, etc., and with little or no benefit. No treatment except tonics after removal of the cervix, and the improvement commenced at once.

Every one who has had any experience in gynæcology can bear witness to the evident improvement of the subinvoluted condition of the uterus after what has been called Emmet's operation, now known as trachelorrhaphy. Dr. Emmet himself says: "For many years past I have met with few or no cases of subinvolution which were not due to laceration of the cervix." And again he says: "If the operation be performed after the different sources of irritation have been removed, the uterus will be reduced rapidly in size, and the patient will not only regain her health, but will remain in the full enjoyment of it afterwards." One hesitates in differing from so good and excellent a man as Dr. Emmet—such a careful observer, and one in whom wonderful results have been the outcome of *such careful observation*. But I do not believe that *complete recovery* will occur in every case, at least such has not been my experience; but that in the great majority of cases similar results *will follow* —the involution will take a fresh start and become completed. But that there are cases of subinvolution in which there has been no laceration of the cervix, and in which the improvement has not been satisfactory under the usual treatment, I question if any one here will deny.

Just as in some cases of enlargement of the tonsils in children—you improve the general health, pay careful attention to the function of the skin, kidneys aud bowels, endeavor to correct faulty nutrition, apply topical applications to the tonsil, use frequent compression of the gland between the fingers, and still the gland diminishes very little in size. But while the health is in the best possible condition, if you remove a small portion of the most prominent part of the tonsil with the tonsillitome, it appears to start up a new condition of things, whereby absorption takes place and the enlarged tonsil gradually melts down. In a similar manner, with my limited experience, a removal of a portion of the cervix in obstinate cases of subinvolution produces like results. The operation surprises the uterus; increased nutritive activities result, and involution is set up.

When I was in Europe in 1876, '77 and '78, it was quite the fashion in some hospitals to cauterize the cervix deeply with caustic potash in enlargement of the cervix with subinvolution, but the subsequent contractions in the cicatricial tissue have, I believe, justly made the operation unpopular. It was the impression made on the uterus by the powerful effect of the escharotic that produced a revulsive action on that organ.

In some cases wedge-shaped sections have been taken from the cervix with good results, not only to the enlarged cervix, but also to the uterus itself, and, as I said, in a few cases I have had fairly good results from dilatation. In that very excellent work of the late Dr. John Thorburn of Manchester, whose untimely death took place while his work was going through the press, he quotes from his colleague in reference to the operation on the lacerated cervix, and says "that the operation must often be looked upon as merely a step in the course of treatment of a uterine disease," a statement with which I am fully in accord. Any operation on the cervix for the promotion of involution must only be looked upon as a means to an end. It is all-important, therefore, that the system should be put into the best possible condition. Local and constitutional treatment must join hands, otherwise we will be frequently disappointed. In defective nutrition, the uterus suffers in common with other organs, and this alone greatly predisposes to arrest of involution.

ECLAMPSIA OF PREGNANCY.*

By J. L. Addison, M.D., C.M., St. George, Ont.

Case I.—Mrs. T., primipara, aged 23; twins. Was called to attend this case at 2.30 A.M. February 4th, 1887. On arrival, was informed that her pains began about 1 A.M., after which a lady friend gave her about an ounce of whiskey. The pains immediately increased in frequency, and markedly so in severity. Os dilated about the size of a twenty-five cent piece, head presenting. At 4 A.M., pains having become light and comparatively ineffectual, she was allowed to sit up in a rocking chair and occasionally walk about the room. An hour later I gave her six grains of quinine, in capsule. She then went to bed and very soon began to complain of headache (frontal) and spots before the eyes. On inquiry, she said she had not been in the habit of getting up at night to micturate, excepting during the previous week, when she had to get up three or four times each night, each time voiding from a half to a cupful of urine. The legs were not markedly swollen, the feet pitted on pressure, the ankles did not; no œdema of the face; no puffing of the eyelids nor hands. The pains again began to increase in severity, and I was inclined to look on the headache and vertigo as perhaps due to the reaction of the whiskey, though still suspicious of uræmia.

On vaginal examination, the os was dilated to about the size of a silver dollar, the head presenting in the third position—*i.e.*, left occipito-posterior, membranes protruding. By abdominal palpation I was unable to decide whether there was one or two fœtuses, owing to her fleshy condition and abundance of liquor amnii, nor could I hear the fœtal heart-beat. About 9 o'clock, the os being fully dilated, I proposed the use of forceps, but to this procedure the friends objected. At 10 o'clock I left her for a few minutes and went into the adjoining room. In less than five minutes I was startled by the husband calling in an excited manner, "Doctor, come quick!" Suspecting what was the matter, I immediately felt for my lancelet, but had left it at

* Read before the Brant Medical Association, Brantford, Sept. 7th, 1887.

home. On entering, I saw at once that my fears were realized. I then looked in my satchel for an anal syringe to give an enema of chloral and bromide, but it, too, was at home, and so was my hypodermic syringe. Jaborandi, too, which I usually carry, was absent. As she was robust and full-blooded, I asked for a pen-knife. They gave me a large-bladed jack-knife, with which I cut through the skin and fat, but on reaching the vein it rolled under the edge of the knife; I feared wounding the artery in using pressure, and thought it better to desist, proceeded at once to administer chloroform and empty the uterus. Applied the forceps (Simpson's long) to the head and delivered the first boy without much difficulty. Withdrawing the anæsthetic after delivery she soon became partly conscious. On examination, the membranes of second were protruding through the os, head presenting. The membranes were punctured with a hair-pin, the liquor amnii escaping in sufficient quantity to drench the bed. I passed my finger up to diagnose the presentation, and she was immediately seized with another convulsion. I repeated the anæsthetic, and when thoroughly under applied the forceps. Traction was easy until it descended to the pubes, when it seemed to stick fast, requiring considerable force to dislodge it. Fearing the constant use of the anæsthetic, being without a medical assistant, I withdrew it for a time until she showed some signs of returning consciousness, then again repeated it and made slight steady traction on the forceps, and again she, not being thoroughly under the influence of chloroform, went off in another convulsion, and the child shot through the perineum, the laceration extending through the sphincter. Fearing hemorrhage, I again withdrew the anæsthetic, and she again became partly conscious, sufficiently so to answer questions when roused. In a few minutes the after pains began, and with the first another convulsion. I again repeated the chloroform and removed the placenta by Credé's method, and as my messenger had arrived with medicine, I again withdrew the anæsthetic, and as soon as she was able to swallow administered Fl. Ext. Jaborandi ℥i. She had a rather sharp hemorrhage, but it was easily controlled by keeping the uterus firmly pressed against the pubic bone and

applying ice to the abdomen. Dr. Smith of Sheffield now arrived to help me to share the responsibility. She had no more convulsions.

Her symptoms.—The only premonitory symptoms were those mentioned above, viz., frontal headache, which she said was not very severe, and spots before the eyes.

The convulsions.—The onset was sudden. The face at first was ashen pale; the eye-balls turned up under the lids so that only the white sclerotics were visible; the head drawn to the left side; the mouth was drawn to the same side, the upper lip drawn well up to the left and forming an arch, the mouth open about 1½ inches; the tongue was not protruded, but was bitten in one of the convulsions; the hand tightly clenched; marked flexion of the wrist; slight flexion of the elbow. This tonic spasm lasted a few seconds, then became clonic. Face began to twitch, mouth closed and jerking, eye-balls rolling up and down, cyanosis, hands, arms, legs and all the muscles took part in the jerking, frothy saliva oozed from the mouth, respiration irregular, jerking and hissing, heart-beat irrregular, forcible and very rapid. This stage lasted a short time, gradually ceasing in severity, the cyanosis gradually giving way to the ashen color.

Her after-treatment.—Rest and quietness in a well-ventilated room, with the blinds down for a day or two, temperature 65°; bowels to be kept open with 3i doses of magnesia sulph.; milk diet; vaginal injections of carbolic acid, 1 to 50; wound dressed with iodoform. Stitching of perineum postponed until she is in better condition. Ordered Liq. Ammon. Acet. 3ii every four hours. Urine contained about one-third albumen.

Under the above treatment albumen disappeared in about three or four days. She was then given quinine, iron and phosphoric acid, beef-tea and light diet, and made a good recovery. Both the children (males) are doing well.

CASE II.—On July 27th, 1886, was called five miles out from our village to see Mrs. J. K., who, I was informed by the messenger, had fainted before he was sent for me. On arrival, I found her in a convulsion, and learned that it was her fifth that day. Drew off a small quantity of her urine, which on boiling

almost solidified. She was a strong, hearty, robust primipara, aged 24, in her eighth month of pregnancy; urine almost suppressed; legs and feet swollen like posts; eyelids puffy; and her husband said she had been very restless at nights for about a week.

Treatment.—I at once bled from the arm about ℥x, gave a brisk cathartic, administered by enema chloral and pot. brom. āā ℥ss, and by the mouth two successive doses of 15 grains of each, fifteen minutes apart, after which she slept quietly for about four hours, until her bowels were moved. I then ordered rest in bed, milk diet, sealing jars of hot water to be placed up the sides of the body and legs until free perspiration ensued for one or two hours, and the following mixture: ℞ Liq. Ammon. Acet. ℥iii, Pot. Acet. ℥vi, Aqua ad ℥vi. Sig. ℥ss every three hours.

In thirty-six hours she was passing water freely, containing about 30% albumen. Rest and milk diet to be continued, and the above mixture to be given in ℥ii four times a day; bowels to be kept open with sulphate of magnesia. In ten days the urine contained only about 15% albumen. She was then allowed to get up part of the day, and for the above mixture I substituted the following: Bitartrate of Potash ℥ss, dissolved in a pint of boiling water, to which was added half the rind of a lemon. This to be taken during the course of each day. She had no more convulsions, but was delivered of a dead fœtus Sept. 1st. Her urine is now free from albumen, and she is enjoying good health.

Case III.—March 14th, 1885, attended Mrs. A. C. in confinement. She was a fine, healthy-looking primipara, aged 20. Nothing remarkable about her labor, save that it was almost bloodless. After delivery and bandaging, she complained of headache; pulse 70, strong and full. Remained with her two hours after delivery, when she said she was feeling very much better, and I left. Five hours later I was summoned to see her again, her husband telling me she had fits. She had her third just as I entered the house. Remembering her bloodless labor and full pulse, I bled from the arm, gave Pulv. Jalapæ co. gr. xl,

an enema of Pot. Brom. and Chloral āā 3ss, and left her Pot. Brom. ℈i, Spt. Eth. Nit. 3i, to be taken every four hours. The albumen, about 20% at first, soon disappeared from the urine, and I gave Tr. Ferri Mur. ♏xv, Liq. Ammon. Acet. 3ii, Acid Acetic dil. ♏x, three times a day after meals. She made a good recovery.

CASE IV.—July 3rd, 1885, was called to see Miss E. T., aged 17. I found her rather drowsy, not markedly so; pupils widely dilated; complaining of headache on top and in front part of head; full bounding pulse; markedly anæmic; feet and ankles œdematous, swelling extending to about midway between the ankles and knees, pitting on pressure; mucous membranes of lips and eyelids very pale; tongue large and flabby, slightly indented on the sides by the teeth, and on the left side, near its tip, a ragged wound as if recently bitten by one tooth. Her friends told me she had had a violent fit about half an hour previous to my visit, that while in it she was black in the face, her features distorted, her muscles jerking, froth oozing from her mouth, and that they thought she was dying. I drew off a small quantity of urine, but with nitric acid could not detect any albumen. She was in her seventh month of pregnancy. Her friends were not aware of her condition before that morning and had reproached her severely for it. I could trace no history of hysteria. She said she had been restless and sleepless for several nights; had been micturating more frequently than usual, but that the whole amount voided in the twenty-four hours was, so far as she could judge, about as much as usual; bowels constipated. Gave a full dose of chloral and bromide, rest and quietness. Later I prescribed Blaud's ferruginous pills, the bowels to be kept open with Epsom salts, abundance of fresh air, sunlight and nourishing diet; and finding out the young man at fault, my prescription for him was to marry the girl and lessen the severity of the storm. My request was acceded to in a few days. Since then they have lived agreeably together, and she has had no more convulsions. At full term she was delivered of a fine healthy boy, since which she has been quite healthy.

Feb. 2nd, 1887.—I attended her in her second confinement,

the only difficulty being a cross-presentation, rectified by turning and drawing down a foot.

In *Case I*, the cause appears to be uræmia, the large distension of the uterus interfering with the action of the kidneys. The lacerated perineum Dr. Smith and I both doubted the advisability of immediately stitching, fearing that the action of the bowels would interfere with its healing, unless the bowels were kept confined for a day or two by opiates, which we did not feel justified in prescribing. If I should be unfortunate enough to have another similar case, I would stitch the perineum and take the chances of union.

Case II was no doubt due to uræmia, and the death of the fœtus probably caused by the convulsions.

Case III was partly due to uræmia, but I think more particularly due to irritability of the nervous system. The child, illegitimate, was born six months after marriage, and the husband was unaware of her condition when he married her.

Case IV was, I think, the result of anæmia and excitability of the nervous system.

To enlarge our scope of discussion, I might launch out a little further and briefly refer to some of the leading features in eclampsia of pregnancy, beginning with

Etiology.

The etiology of puerperal eclampsia still seems to be rather unsettled, the following being some of the leading causes mentioned: 1. Uræmia. 2. Cerebral Anæmia. 3. Cerebral Congestion. 4. Excitability of the Nervous System. 5. Micro-organisms.

1. *Uræmia.*—In regard to this cause, we must look for some deficiency in the urinary apparatus. We all know that in pregnancy we generally have more or less hypertrophy of the left ventricle, with increased arterial tension; and that in the majority of fatal cases of eclampsia, where post-mortems have been held, there has been found more or less damage to the kidneys. Lever first showed that the urine in patients suffering from this disease was generally highly charged with albumin. The infer-

ence was that urea was the cause. Frerichs modified this view by holding that the decomposition of urea into carbonate of ammonia was the cause. Dr. Purdy would lead us to believe that the majority of cases are associated with and are the direct result of kidney disease. Here we might remark that statistics show that about one-eighth of the cases of puerperal nephritis have convulsions; then if this be the sole cause, why do not one-eighth of our non-pregnant cases of nephritis have convulsions? Infraction, refraction or pressure on the ureters is thought by some to be an active factor in causing the uræmia, and yet we do not meet with this result from the pressure of ovarian tumors. Is it because of the comparative infrequency of the latter? Lastly, an over-distended bladder is said sometimes to be a factor.

2. *Cerebral Anæmia.*—It is due to an insufficiency of pure blood to sustain the vital functions, or a want of nutrient blood in the system, a poverty and privation of the blood associated with mental anxiety, worry, etc. McDonald thinks it due to irritation of the vaso-motor centres, in consequence of an anæmic condition of the blood, produced by the retention in it of excrementitious matter which the kidneys ought to have removed, this over-stimulation resulting in anæmia of the deeper-seated nerve centres and consequent convulsion.

3. *Cerebral Congestion.*—In plethoric pregnant women, irritability of any organ supplied with ganglia may cause; *e.g.*, mental emotion, distended stomach, spirituous liquors, powerful contractions of the uterus with some obstruction to passage of the head.

4. *Excitability of the Nervous System.*—Tyler Smith compares the nervous system of a pregnant woman to that of a child, and looks upon this excitability as a cause.

5. *Micro-organisms.*—Doleris and Poney have studied in collaboration the relation of micro-organisms to the albuminuria of pregnancy, and have come to the following conclusions:

1. Micro-organisms are to be found in the bladder in these cases independently of albuminuria, and apparently unconnected with any kidney trouble.

2. Albuminuria is present in about five per cent. of pregnant

women, and in such urine micro-organisms, especially streptococci, are always present.

8. The blood of such women usually, if not always, contains bacteria, the presence of which is demonstrated by culture.

4. In the cases of albuminuria of pregnancy with eclampsia, micro-organisms were present in both blood and urine, and apparently had a direct quantitative relation to the severity of the convulsions.

Time of occurrence of Eclampsia.—Rarely before the sixth month of pregnancy, common after the eighth month, most frequent during the last week, occasionally after the completion of labor. It occurs much more frequently in primiparæ than in multiparæ.

Prognosis.—Playfair says 1 woman in 3 or 4 dies. Lately the mortality has been reduced to 1 in 6 or 7. Lusk says half the children die. Testue gives the following statistics of various methods of treatment:

Mortality when	general blood-letting was used	35 per ct.
"	" purgatives were used	56 "
"	" purgatives and blood-letting combined were used	17.3 "
"	" anæsthetics were used	17.8 "
"	" chloral alone	4 "
"	" chloral and bleeding combined	9 "
"	" chloral and other measures	13.3 "

TREATMENT.

Prophylaxis.—It would seem from a careful perusal of the various articles on puerperal eclampsia, that if all pregnant women would daily drink buttermilk, skim-milk or whey, keep the bowels regular with small doses of magnesia sulph., have abundance of fresh air and sunlight, daily bathe with warm water, or, better, with salt and water, and have suitable food, there would be few cases of puerperal convulsions. Girls with Bright's disease should not marry. Their first confinement is said to be almost fatal.

In pregnant women complaining of fixed headache, spots before the eyes, epigastric pain, restlessness at night, puffing of the eyelids, hands or feet, it is always well to examine the urine

and have the daily amount of its secretion measured; inquire into the state of digestion and condition of the bowels. If you find albuminuria, the treatment will depend to a great extent on general principles. Good hygienic surroundings, bathing, keeping the bowels open, rest and milk diet will be found sufficient in many mild cases. In regard to bathing, hot air and hot water are both highly spoken of. The former can be administered in various ways, probably the best being the Turkish bath or placing the patient in a cane-seated chair with a burning alcohol lamp beneath it and surrounding her and the chair with sheets. In one case I found wrapping the patient in warm blankets in bed, with bottles of hot water along the legs and sides and cold cloths on the head, act very well. *The hot water bath*, after the manner practised in Vienna, is good, but in a country practice not generally so easy of administration. The mode of administration I suppose you are all familiar with; it is as follows: The patient is put into a bath of 99°, the bath to be covered with a heavy blanket, leaving the face free. The temperature of the water is to be gradually increased to 110° or 112°. She is to remain in the bath for thirty minutes. A towel wrung out of cold water placed on the head relieves any distressing head symptoms. Whilst in the bath the patient is to drink large quantities of water. After coming out of the bath she is to be covered with a warm sheet and then enveloped in blankets, when almost immediately free perspiration follows. The sweating is allowed to go on for two or three hours.

In regard to milk diet, the following are Nollet's conclusions:

1. Milk diet has as yet given the best results in the treatment of albuminuria.

2. This method is not applicable to all forms, and if too prolonged may produce serious inconvenience for the patient.

3. The albuminuric should avoid large meals, eating frequently, but little at a time.

4. Individual susceptibility must determine the sorts of animal food least injurious to the patient.

5. Fish appears to favor the passage of albumin into the urine.

For the restlessness and sleeplessness, chloral and bromides.

If anæmic, iron in some form. Basham's mixture of Tr. Ferri Mur., Liq. Ammon. Acet., and Acetic Acid dil., is highly spoken of. If plethoric, bleed. For dropsy, some European writer whose name I am unable to recall has said, "Purge one day and sweat the next." This I should think would be good when done cautiously, though I have not seen it tried. For scanty secretion of urine, a good calomel purge and saline draught, followed by a mixture of liquor ammonia acetatis and acetate of potash, with or without jaborandi, would be most likely to increase the secretion. If on opthalmoscopic examination you discover albuminuric retinitis, or if in the eighth month of pregnancy you find the proportion of albumin steadily increasing in spite of treatment, consider the advisability of emptying the uterus.

Treatment of Eclampsia.—The remedies are various. Among the leading ones may be mentioned—Venesection, Pilocarpine, Morphia, Chloral and Chloroform.

1. *Venesection.*—Much care necessary. If the patient is plethoric and the convulsion due to cerebral congestion, it is the remedy *par excellence* in such cases, generally giving ample time for the action of other remedies.

2. *Pilocarpine* seems to be coming more to the front lately, the dose for hypodermic injection ranging from one-eighth to half a grain, or fluid extract of jaborandi may be given in drachm doses, better administered in warm water.

In reference to pilocarpine, Dr. G. T. McKeough says* :—"When coma is profound, and has almost extinguished the action of the reflex centres, pilocarpine is a dangerous agent on account of the impossibility to the patient of getting rid of the enormous quantity of bronchial secretion and saliva which floods the respiratory passages; but in those cases in which the physician is called before the patient has many convulsions—when the poison has not suppressed entirely the action of the reflex centres—when the patient is partly conscious, probably restless, and moaning, or when the convulsions have not occurred, but seem imminent—it is my conviction that we have in pilocarpine a most valuable adjunct in the treatment of this dreaded disease."

* Canadian Practitioner, January 1886.

3. *Morphia.*—Dr. C. C. P. Clark, in the *American Journal of Obstetrics*, is a strong advocate of this remedy in heroic doses. He says "ordinary doses are useless. Inject into the arm *a grain and a half of morphia;* should the paroxysms return any time after two hours, repeat the dose. If in labor, repeat the dose in eight hours anyway. He says this quantity may look large, but that he is perfectly confident, after having tried it many times, that it is absolutely safe. That he is also prepared to swear that twice the quantity, not repeated, would do no harm to a patient in a strongly eclamptic condition."

Few of us young practitioners would like to risk such heroic dosing; perhaps a safer way would be to repeat ¼ to ½ grain doses as often as necessary.

4. *Chloral.*—The weight of opinion seems to favor this remedy in large doses per rectum. Dr. Goodell, a few years ago, said he believed it to be the best single remedy. He directs a drachm by the rectum or twenty grains by the mouth, repeated as often as necessary, and asserted that he had never lost a case.

5. *Chloroform.*—It is very useful, temporarily, to control the convulsions, and almost indispensable when operative interference is necessary. M. Ternier, in the *Medical Union*, says that it increases the percentage of albumin. In a series of ten experiments in its administration for 30 to 75 minutes without any operation, he showed that albumin was found in eight cases, though none before; and in a second series of ten administrations with operation, albumin was present in every instance after administration, and in every case where a trace was found before anæsthesia, a marked increase was noticed afterwards.

6. *Veratrum Viride* is highly lauded by many practitioners in the Western States. It is given in 10 minim doses with or without bromide of potash, repeated often as necessary to control the pulse, or the fluid extract may be given hypodermically when the woman is unconscious.

7. *Purgatives.*—These diminish vascular tension and at the same time clear the intestinal tract of any irritant matter. Pulv. Jalapæ co. still takes the lead, perhaps on account of its easy administration and rapid action. If unconscious between the

paroxysms, croton oil, one or two drops, would be more convenient. If conscious, almost any active purgative you may have at hand would do—calomel, Epsom salts, pill cathartic co., etc. Some physicians rely entirely on chloroform and purgatives, one whose name I have forgotten making the statement "that as soon as he got the bowels moving freely he had no further fear of convulsions."

8. *Forceps.*—When shall we use them? Here, as in all other cases, common sense should guide us. Dr. Temple of Toronto has pointed out that in primiparæ the advancement of the head is frequently impeded by the pubic bone, and that this obstruction is easily overcome by application of the forceps.

In such cases where eclampsia supervenes, chloroform and the forceps is the quickest and best way of getting out of the difficulty. When eclampsia occurs during labor, hasten the labor by every means safe to the mother and child. Should the os not be sufficiently dilated, undue haste might lessen the danger to the child, while it increased the risk of injury to the mother in the way of lacerating or otherwise wounding the cervix, rupturing the vagina, or lacerating the perineum; at the same time, by the irritation, increasing the severity of the convulsions. To protect the perineum when using the forceps, I place two fingers in the rectum and use the palm of the hand as a support.

Reviews and Notices of Books.

Elements of Physiological Psychology. A Treatise of the Activities and Nature of Mind from the Physical and Experimental point of view. By GEORGE T. LADD, Professor of Philosophy in Yale University. New York: Chas. Scribner's Sons. Montreal: Wm. Drysdale & Co.

We have read carefully every one of the 688 pages of this work, and we are prepared to speak of it in terms of almost unqualified praise. The book is divided into three parts, preceded by an introduction, in which the author defines the grounds of his method of treatment of the subject.

The first part discusses *The Nervous Mechanism.* Under this head are chapters on: The Elements of the Nervous System; Combination of the Nervous Elements into a System; The Nerves as Conductors; Automatic and Reflex Functions of the Central Organs; End-Organs of the Nervous System; The Development of the Nervous Mechanism; and Mechanical Theory of the Nervous System.

Part second is on *The Correlations of the Nervous Mechanism and the Mind.* It contains chapters on: The Localization of Cerebral Function; The Quality of Sensations; The Quantity of Sensations; The Presentations of Sense; Time-Relations of Mental Phenomena; Feelings and Motions; Physical Basis of the Higher Faculties; and Certain Statical Relations of the Body and Mental Phenomena.

The third part is devoted to *The Nature of Mind.* Here we find the subject dealt with under the following heads: The Faculties of the Mind and its Unity; The Development of the Mind; Real Connection of Brain and Mind; The Mind as Real Being.

We have enumerated the subjects treated at length, because one thus perceives at a glance not only the scope of this magnificent work, but also the nature of the field which the modern science of physiological psychology aims at tilling; though only imperfectly, for, as we learn upon the reading of such a book as this, there is much common ground now between the psycholo-

gist, the physiologist and the physician. The modern psychologist is one who may truly affirm that there is nothing foreign to him which throws light upon the nature of the mental processes, no matter with what science it originates. This book is the only one of its kind in the English language; the only other work extant that covers the same ground is Wundt's *Grundzüge der Physiologischen Psychologie.*

The preparation of such a work has involved an enormous amount of reading and literary research, and the English reader is presented with the results in a form concise, clear, and admirably digested. Not only so, but every theory, we might say every monograph, examined, seems to have been subjected to the careful scrutiny of an acute and, we are glad to add, impartial mind. In this work we have no crude, undigested collection of the opinions of the German or any single school, without regard to merit. We feel constantly, as we peruse the book, that the writer's mind has acted as a pair of well-adjusted balances; and if he has erred, it is simply because no balance is perfect. To those unacquainted with the literature of the new psychology, the knowledge shown of the details of anatomy (especially histology) and physiology, even as contained in special monographs, must be surprising. One looks with hopefulness for new light on these sciences from a department that till lately had absolutely no existence; and not the least of the fruits likely to be borne by this young tree of science will probably fall into the broad lap of Medicine. Is Medicine as grateful as she ought to be for what the collateral sciences have done for her? Does she realize in any adequate measure what is actually the extent of her indebtedness?

As an example of the *quality* of this book, we would instance the treatment of the burning subject of cerebral localization. We have no hesitation in saying that Professor Ladd's handling of this subject is the most thorough, impartial and generally satisfactory to be found in English, or, so far as we are aware, in any tongue. If others, including the able investigators who have advanced our knowledge of this department of physiology, had exhibited the same caution in drawing conclusions as the

writer of this book, cerebral physiology would not have left so zig-zag a trail. The conclusions of Professor Ladd are so in harmony with our own views on this subject that we cannot forbear quoting them:

"Three principles may be laid down as summing up the results reached by inference upon the basis of experiment with respect to the localization of function in the cerebral cortex. The first principle is to be accepted in the form of a general postulate derived from a study of the other parts of the nervous system, and confirmed on attempting to apply it to the cerebral hemispheres. It may be stated as follows: The different elementary parts of the nervous system are all capable of performing its different specific functions when, and only when, they have been brought into the proper connections and have been exercised in the performance of those functions. This principle includes two important laws which, we know, hold good throughout the whole nervous mechanism, and which lie at the physical basis of important psychical facts and laws; they are *the law of specific energy* and *the law of habit.* The remaining two of the three principles alluded to above may be said to follow from the first; they are the principle of *localized function* and the principle of *substitution.* The former asserts that, in the normal condition of the nervous system, all parts have not the same definite functions. Inasmuch as the functions of the different elementary parts necessarily depend upon the manner in which they are combined and connected, the composite parts or organs thus formed must also have certain normal functions. There is nothing in the structure of the cortex to show why the general law of differentiation of function should be inapplicable there. On the contrary, everything in both its anatomy and physiology indicates that the principle of localized function does apply, in some sort, to the cerebral hemispheres. So-called 'centres,' or 'areas,' or 'fields,' of the cerebrum are in no case, however, to be regarded as portions of its nervous substance that can be marked off by fixed lines for the confinement of definite functions within rigid limits. These areas are somewhat different for different brains of the same species; they widen when a heightened energy is

demanded of them; their centres are neither mathematical points nor very minute collections of cells. They are not composed of elements, which have, each one, a fixed and unchangeable value, and a definite function as though the number of mental operations assigned to a locality needed to be precisely matched by the separate nerve fibres and nerve cells of the locality. Nor are these areas perfectly isolated localities; on the contrary, they obviously overlap each other in certain cases. Furthermore, the functions of the cerebrum are not absolutely confined to those centres with which, under ordinary circumstances, they are chiefly or wholly connected; in which, that is to say, they are localized. If such centres, for any reason, become incapacitated or relatively unfitted to perform their normal functions, the same functions may be performed by other areas of the cerebral cortex, provided these areas also stand in the proper connections. This is the principle of substitution. It is due to its working that animals subjected to experiments in extirpation, as a rule, so largely recover the powers of sensation or motion which they have temporarily lost. Such substitutive functions improve under the law of habit to which the organs of the cerebral cortex are subjected. The connections between the different cerebral areas and their functions are so complex and subtile that physiological science will need a long time to disentangle them; it may be doubted whether it will ever succeed in doing this completely."

While in the future science must gratefully acknowledge the work of such men as Fritsch, Hitzig, Exner, Ferrier, Munk and others, it will owe a special debt of gratitude to Goltz. He has been the brake on the car of progress which the others were hurrying on at a dangerous rate of speed. Why are physicians or pathologists so much less cautious than psychologists or even physiologists in drawing conclusions on this subject—indeed on the whole physiology of the nervous system? To speak candidly, we think it is largely due to their not exercising the same caution *habitually*. Their professional duties do not call for it; or, at least, they are so often obliged to act without exact knowledge that the mind is in great danger of getting into a habit of

jumping at conclusions in a way that the strict laws of logic cannot sanction. The perusal of such a work must tend to make the physician or any one else cautious, in the true scientific sense.

As an index to the literature alone the book is of great value; for the literature of every science is now so vast and so scattered it is almost impossible to keep track of it. The whole subject of the senses receives at present a fuller treatment in works of this character than anywhere else; and the labors of the physiologist, the psycho-physicist, and the psychologist, in the wider sense, are now to be regarded as supplementary in this connection.

Throughout, the author's position, as a dualist, is consistently and ably maintained. Professor Ladd believes we can get no really sound foundation for our knowledge of mental processes without assuming the existence of mind as a distinct entity. To explain consciousness by any materialistic conception lands us in actual absurdity. No doubt the chapters on this subject will lead to more unfavorable criticism than any others. For our part we are exceedingly glad they have been written. The "new psychology," like bacteriology in medicine, is just now in the rampant stage. Its adherents are over-hopeful and somewhat too pretentious. It is not likely that the problems that have baffled men for ages will all be cleared away by the results of any one method, however good in itself. We live in an age, sometimes fearfully destructive, sometimes almost recklessly regardless, of the opinions of the past, and with unbounded confidence in its own performances. Anyone who will write so as to check these tendencies must prove to be a real benefactor of the highest kind, and not the less so though the value of his warnings be inadequately appreciated at the time.

The author is conservative in regard to explanations of memory. This faculty is inexplicable by any physical theories; it remains a mystery. The use of terms, borrowed from physical science, as applied to the mind, except in a purely figurative sense, is deprecated; and the substitution of declamation (as by Luys) for facts or theories based on facts is regarded as a retrograde step.

Many interesting facts and suggestions in regard to temperaments, bodily development in its relation to the unfolding of the mind, sexual mental differences, etc., are put before the reader. The need of an exact study of the correlations of mental and physical development before we can generalize with safety is clearly presented. Professor Ladd's position on the nature of the mind can best be expressed in his own careful words: "The subject of all the states of consciousness is a real unit-being called mind; which is of non-material nature, and acts and develops according to laws of its own, but is specially correlated with certain material molecules and masses forming the substance of the brain. The development of mind can only be regarded as the progressive manifestation in consciousness of the life of a real being which, although taking its start and direction from the action of the physical elements of the body, proceeds to unfold powers that are *sui generis*, according to laws of its own. The assumption that the mind is a real being which can be acted upon by the brain, and which can act on the body through the brain, is the only one compatible with all the facts of experience." Again, in reference to memory, our author says: "Those phenomena of consciousness which we designate as 'memory' and 'recollection,' as well as the play of the reproduced images of representation in general, are correlated with the molecular constitution and tendencies and with the so-called 'dynamical associations' of the elements of the nervous system." It is to be distinctly noted, however, that the author discards the view that *all* mental phenomena have exact equivalents in specific forms of the nerve-commotion of the living brain.

While the real connection of mind and body are judged inexplicable, we regard Professor Ladd's showing that the mystery is no greater than in certain cases which, many fancy are not unexplained, (*e.g.*, the nature of the force which binds the parts of the solar system together) as unusually felicitous. Such a work as this must prove the most valuable antidote for that over confidence which characterizes to a large extent the younger or youngest portion of the scientists of the day. One of the most eminent botanists on this continent said in a recent address:

"It often seems as if we were producing a set of precious little prigs, when one sees young men turning up their noses at all those who do any work not involving the most complicated microscopical manipulations." With such a remark we cordially agree; but it does not apply to any one group of scientists alone. Now-a-days we hear from a certain class of young men a great deal about "original research," which often means nothing more than the spreading forth in print of a series of *manipulations* which have led to no really valuable results; we find men ripe in years and attainments criticised with audacious flippancy and even set at nought unless they happen to be the kind of "investigators" these callow brains conceive of; so that one is tempted to look about with alarm and ask what factors in our educational methods or our public or private life are producing these manifestations.

Like the author, we look hopefully, but not with the unbounded extravagance of some, on the future achievements of the "new psychology"; and we can still see much of value to cherish in the "old psychology." We are not inclined to seek for microscopic faults in a great work like this. There are some books that should never have been conceived, much less born; and there are some few books the world could not spare. Of the scientific world at least, the latter may be said of Professor Ladd's Physiological Psychology. After the accomplishment of such a task, any man might shuffle off this mortal coil with the feeling that he had well served his day and generation.

T. W. M.

Evacuant Medication (Cathartics and Emetics).—By HENRY M. FIELD, M.D., Professor of Therapeutics, Dartmouth Medical College, &c., &c. Philadelphia: P. Blakiston, Son & Co. 1887.

Dr. Field, under the head of Evacuant Medication, gives an elaborate account of our different emetic and cathartic agents. The indications for the employment of these drugs are described with a fullness and clearness which is refreshing. Altogether we have had great profit from the reading of this little work.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, June 10th, 1887.

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

DR. R. L. MACDONNELL read the history of two interesting cases which had recently come under his notice:

1. *Malignant Disease of the Lung.*—A boy, aged 3 years, had appeared for some weeks to be suffering from shortness of breath, without any other symptom. At the first visit the whole right chest was found to be flat on percussion, and to present the physical signs of pleurisy with effusion. Aspiration yielded a negative result, nothing but a few drops of blood entering the instrument. These being examined by Dr. Wyatt Johnston, were found to contain no pus, but an unusual number of leucocytes. Several further attempts at aspiration yielded scarcely better results. At one time about two ounces of pure blood were withdrawn. Dyspnœa became very urgent, and pressure signs, distension of thoracic veins, and œdema of the right side of the face set in. The child died after an illness of six weeks. An autopsy showed that the right lung was the seat of an extensive growth of a lympho-sarcomatous nature. No other organs were found involved.

Discussion.—DR. JOHNSTON stated that the tumor was a lympho-sarcoma. It was like a small, round-celled sarcoma, but with a number of lymph elements. The specimen showed the anomaly that, though sarcomatous, the cells were arranged in alveoli.

DR. HINGSTON said the symptoms seemed to point to empyema, cancer is so rare in children. He also quoted a case of empyema that occurred about the same time, in which the first aspiration produced fluid, but the second gave none, the pus having become consolidated.

2. *Cerebral Syphilis.*—The second case was that of a married woman, aged 20, who entered hospital on account of "fits," which had occurred off and on during the last nine months.

These attacks, one of which occurred in the hospital, consisted of clonic spasms affecting the left side of the face and left arm, and were preceded by a distinct aura. There was subsequent hemiplegia of these parts, with dragging of the left leg on attempting to walk. On the left side the reflexes were exaggerated and ankle clonus present. General intelligence was but fair, and speech thick. Optic neuritis was present in both eyes, with intense, but not localized, headache. Though no history of syphilis was to be obtained, a course of inunction with mercury was carried on to salivation, Dr. MacDonnell recognizing that the symptoms were the result of some lesion of the motor area of the right side of the brain, and that the most probable origin of such a condition was syphilitic tumor. The result was most satisfactory. Complete recovery of the paretic parts rapidly ensued, the headache disappeared, and after a month's stay in hospital the patient returned home in an excellent state of health.

Discussion.—Dr. Stewart stated that he was called to see the patient. He thought there were two points of great interest in this case. The first was that the onset of the symptoms seemed to point to a cortical lesion which was probably of syphilitic origin; the lesion might be a tumor or merely a thickening of the membrane. The second point to be observed is the greater value of mercury compared to potassium iodide in the treatment of cerebral syphilis. If the woman could have stood the effects of more mercury she would probably have got better sooner. He also called attention to the value of using an antiseptic mouth-wash. In Vienna mercury was rubbed in thirty times a month without saturation, because the patient's mouth was well washed.

Dr. Cameron asked at what point could one determine when the mercury had reached its full effect, and when would it be advisable to resort to operation?

Dr. Stewart replied that if the disease was syphilis, a complete cure might be expected; but if no effect was produced in six weeks, operative procedure might be considered.

Dr. Hingston referred to the efficacy of potassium iodide over mercury in his experience. There is very little doubt of

the superior efficiency of potassium iodide over mercury in syphilis generally, why not in cerebral syphilis? He then referred to the difficulty of diagnosing syphilis even in cases where the lesion was visible, and quoted cases where it had been mistaken for malignant disease. He believed potassium iodide was a scavenger for the disease, and if it had no effect on any disease, that disease was not syphilitic.

Foreign body in the Bladder.—DR. HINGSTON related an interesting case of this nature. An old man came into hospital complaining of frequent micturition at night, with pain and other symptoms of calculus. The lithrotite was introduced without preliminary sounding, opened, and closed on something soft not attached to the veiscal wall. On withdrawing it, found a piece of sheet rubber; again introduced the instrument, and withdrew another piece, and afterwards crushed and removed a calculus that was there. Patient stated that he had been examined with an instrument in Chicago, where he was treated for irritation of the neck of the bladder. Probably part of the rubber catheter was left.

In reply to Dr. Gurd, Dr. Hingston stated that the rubber was very much incrusted.

Case of supposed Aneurism.—DR. MACDONNELL related a case of supposed thoracic aneurism. There was great intra-thoracic pain, and neuralgic pains in the course of the fifth and sixth nerves, requiring hypodermics to produce sleep. Patient had history and symptoms of syphilis. Complete relief was afforded by potassium iodide. There is now no pain nor any pressure symptoms, and patient is up and about the wards.

In answer to Dr. Gurd, Dr. MacDonnell said that potassium iodide gives wonderful relief in cases of aneurism. Would not say whether this was due to its antisyphilitic action or to its power of producing a clot in the sac.

Stated Meeting, Sept. 30, 1887.

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

Drs. J. Stirling and K. Cameron were elected members of the Society.

PATHOLOGICAL SPECIMENS.

DR. JOHNSTON exhibited the following specimens:—

1. *Enlarged prostate, with bladder attached.* showing the beneficial effects of systematic catheterization. Bladder mucosa was quite normal, and neither the ureters nor the kidneys were affected, though the enlargement was sufficient to prevent the passage of urine except by the use of a catheter.

2. *Acardia;* a fœtus from the McGill College Museum, with the organs of circulation entirely wanting.

3. *A fibrous nodule*, found lying free in a pocket formed by an old pleuritic adhesion. The nodule was quite cartilaginous in consistence.

DR. MAJOR exhibited his new instrument for the removal of growths from the vault of the pharynx. It works on the principle of the guillotine, and is a great improvement on the older forms of forceps, as the uvula could not be caught in the instrument, and most growths could be removed at one operation.

DR. WILKINS, First Vice-President, took the chair, and

The PRESIDENT (Dr. Cameron) read a paper on *The Influence of Leukæmia on Pregnancy and Labor*, which will appear shortly in the *American Journal of the Medical Sciences*. He said that after a careful search through the literature of the subject he had been able to find reports of only four cases where leukæmia was said to have occurred in the course of pregnancy, but in none of these had a blood-count been made or the condition of liver and spleen carefully examined. No case has hitherto been recorded where a woman already leukæmic has been known to become pregnant. He then reported at considerable length a case which he considers unique. A woman, aged 36, married, was treated in the Montreal General Hospital for leukæmia, in September 1885, and at the same time her three months old infant and six year old daughter were found to be leukæmic. She became pregnant in March 1886, her liver and spleen became enlarged and tender, and as pregnancy went on, dyspnœa and œdema became extreme, and her blood showed profound alterations. She had repeated attacks of epistaxis before labor set in, and became so weak and faint that her con-

dition was really alarming. She was confined in the University Maternity Hospital on 29th October, 214 days after cessation of last menstrual period. Her labor was perfectly dry and bloodless, and a scant slimy discharge for a couple of days was the sole lochial flow. Two hours after the birth of the child, the blood of both mother and child was examined, with the following result :—

Mother—Red corps., per c.mm., 990,000..... W:R=1:4
Child— " " " 5,210,000..... W:R=1:175

She made a rapid convalescence, and was discharged from hospital on the twelfth day, when her blood was found to have improved so as to register

Red corps., per c.mm., 1,900,000..... W:R=1:35

The placenta was carefully examined, and showed remarkable and interesting differences in the quality of the blood at different parts :

Pl. Vein —Red corps., per c.mm., 4,610,000..... W:R=1:173
Pl. Artery— " " " 5,410,000..... W:R=1:270
Pl. Sinuses— " " " 950,000..... W:R=1:36

The child, which throve nicely for a day, was clandestinely put by the patient to her own breast, and in a few hours a purpuric rash appeared and spread over the body, the child began to vomit and purge, and in four days died. Nothing special was found post-mortem. The patient regained her strength so completely that she was able to do heavy housework, wash and scrub, iron, and drive a waggon to market. Early in May 1887, she became again pregnant, liver and spleen began again to enlarge, her red corpuscles to decrease and white corpuscles to increase, and the course of pregnancy is running along very similar to the previous one. She is being kept under careful supervision, and a number of interesting observations are being made which will be published in due time. In conclusion, Dr. Cameron summarized the points of interest in the case as follows :

1. *The family history.*—The grandmother, mother and brother of the patient have suffered from symptoms probably pointing to leukæmia. Two of her own children have had well-marked leukæmia ; another is now in ill-health with diminished red cells

and enlarged spleen. None of her children reach the normal standard of five to six millions of red corpuscles were c.mm. All of them have had jaundice. In this case there seems to be a strong *hereditary* tendency.

2. The enlargement of the spleen was first noticed by the patient at the beginning of her sixth pregnancy, and now both liver and spleen begin to enlarge when she becomes pregnant, while at the same time her red corpuscles diminish and white corpuscles increase.

3. During labor and the puerperal period, there was absence of hemorrhage or any appearance of blood.

4. After labor, the œdema and dyspnœa rapidly subsided, the red corpuscles increased and white corpuscles decreased till her usual strength and vigor were regained, though the spleen remains considerably enlarged.

5. The remarkably chronic course of the disease, and the recurrence of pregnancy (now the third time since splenic enlargement was first noticed).

6. The remarkable difference between the blood of mother and child and of the blood in the placenta, showing that the fœtal and maternal circulations were not only entirely distinct, but also that the child actually made red-blood in its body and lost it in the placenta.

7. The disastrous effect of nursing upon the child, causing purpura, vomiting, purging and death.

Discussion.—Dr. Geo. Ross said that this unusually interesting case had been for some time under his care at the General Hospital. Her health at the time of her confinement was such that she required the most careful attention; indeed even a very moderate loss of blood at that time would have been most dangerous, if not fatal, to the patient. He could offer no explanation for the absence of blood at the time of delivery. He had a case in private practice where there was a very slight sanguineous loss at the time of delivery. This was a case of profound anæmia accompanying valvular disease of the heart, with œdema of the legs, violent palpitation of the heart, dyspnœa and general cardiac weakness. The loss of blood here was

almost imperceptible. He thought that Dr. Cameron's case showed that heredity is not a strongly marked feature of the disease.

Dr. Armstrong suggested that the apparent absence of sanguineous discharge might be due to the small proportion of red corpuscles in the blood; a proportion of one white to four red corpuscles would hardly look like blood. As pregnancy seems to have made the patient much worse, it becomes a question whether it would not be advisable to prevent a future pregnancy.

Dr. Ross thought the last question a very important one, but though deleterious to her health, she survived, and has been remarkably well since. He did not think interference was called for in this case.

Dr. Wilkins agreed with Dr. Armstrong that the absence of blood may have been more apparent than real. In a case of acute pernicious anæmia, when there were only 1,050,000 red cells, the blood was but a very pale pink. If such a liquid were mixed with amniotic fluid, it would be very difficult to identify as blood.

Dr. Johnston called attention to the close similarity in the condition of the mother's blood and that found in the placental sinuses, and asked if the advisability of removing the spleen had been considered.

Dr. Buller referred to the serious consequences to the infant which followed from nursing by the mother, and asked if the mother's milk had been examined.

Dr. Cameron, in reply, said that the mother's milk was thin and acrid, and in a day or two dried up, so no thorough examination was made. Splenotomy was not considered advisable in the case, as it is chronic. With regard to the question of inducing premature labor, he thought that nature would probably settle the question. The woman is again pregnant, but it is doubtful if it will go on beyond the seventh or eighth month. If the alarming epistaxis were again to appear, he would be inclined to bring on an abortion to save the mother's life. The absence of blood at the birth was real, it was not apparent only, as the birth was almost a dry one; the placenta was glistening

and the child quite dry, no fluid of any kind accompanied it. This case is alone in illustrating the effect of heredity; no mention is made of it in the literature of leukæmia.

Peculiar Cause of Blindness.—DR. BULLER related a case occurring in his practice two years ago. A little girl had a squint eye quite blind; on examination, the optic nerve, or the place for it, showed a white patch with pigmented margin. He learned that when the child was born the labor was difficult and severe; instrumental aid was necessary. After birth it is said this eye was found out of the orbit, on the cheek, and was put back by the physician. Dr. Buller asked if any one knew of similar effects from the use of forceps.

DR. CAMERON said he had seen the eye protruded almost beyond the lids from severe use of forceps not properly applied to the head.

Annual Meeting, October 14th, 1887.

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

Drs. A. W. Campbell and J. H. B. Allen were elected members of the Society.

The Treasurer's report was held over to the next meeting.

The report of the Secretary showed that there were 18 meetings held during the year, at which 21 papers were read, besides reports of cases and exhibition of pathological specimens. The average attendance for the year was over 19.

Pathological Specimens.—DR. JOHNSTON exhibited specimens from two cases of ainhum, sent by Dr. C. E. Gooding of Barbadoes. In each case a constricting band of fibrous tissue had formed about the proximal phalanx. The bones were extremely small and thin, and seemed atrophied. He also exhibited for Dr. Geo. Ross specimens from a case of chronic Bright's disease. The patient during life had shown marked dyspnœa. The pharynx, soft palate and epiglottis were enormously swollen through œdema, but from the absence of stridor it had been inferred that the chink of the larynx itself was not involved. At the autopsy the œdema was found not to actually involve the glottis, the

rima being of normal dimensions and both vocal cords and ventricular bands were free from œdema.

Dr. C. E. Gooding of Barbadoes was elected a corresponding member of the Society.

Periosteal Sarcoma.—Dr. James Bell exhibited the thigh of a patient amputated at the upper third, and related the following history of the case: The patient whose leg was shown was a young man aged 18 years, a native of Montreal, and of Irish extraction. The growth began in April last as a small moveable nodule on the front of the femur, just above the knee. It grew rapidly and extended around the lower end of the femur. It was painless until recently, when he began to suffer from pains of a neuralgic character, chiefly in the foot (doubtless due to pressnre on the nerves). As late as the 4th of June he walked to the Hotel Dieu Hospital, where he remained five weeks, and has never been able to walk since. He was admitted to the General Hospital about the middle of August, where Dr. Bell saw him for the first time. The whole lower end of the femur was then uniformly enlarged. It was clearly a periosteal sarcoma, and amputation was suggested. He took fright at the suggestion and went away, but returned on the 30th of September. The growth had increased greatly in size during the six weeks which had elapsed since his leaving the hospital. His foot and leg were œdematous and the neuralgic pains very severe. He was exceedingly weakened, pale, and much emaciated, and his temperature ranged from 100–103°F. On Monday, Oct. 3rd, Dr. Bell amputated through the upper third of the thigh by the circular method. Since the operation his temperature has been perfectly normal, and his general condition has improved very much. The first dressing after operation was done on the eighth day. On section, the tumor was found to have involved the periosteum of the lower third of the bone, but had not invaded the interior. On examination, the epiphysis separated from the shaft and showed a diseased condition (apparently inflammatory) between these two parts.

Discussion.—Dr. Johnston said that the microscopic section of the tumor, which was exhibited, showed the growth to be a

round-celled sarcoma, showing here and there scattered among the round-celled tissue small transparent islets, within which a few branched cells could be seen (osteoblasts).

DR. RODDICK thought that although on account of the man's condition it was probably wise to amputate in the upper third, as had been done, yet he thought that the surgical *role* of removing the whole bone should, if possible, have been followed.

DR. FENWICK did not agree with Dr. Roddick, and thought that in periosteal sarcoma, if the disease were entirely removed, there was no danger of recurrence in the stump, at least for a long time, and mentioned some similar cases which had occurred in his own practice.

DR. BELL, in reply, stated that in the cases of this disease which had hitherto come under his observation, recurrence in the stump had never occurred, although in every case there had been an early recurrence in some of the fibro-serous sacs of the body—either the pleura, the periosteum, or the dura mater, chiefly the pleura.

RESOLUTIONS OF CONDOLENCE.

Moved by DR. GEO. FENWICK, seconded by DR. GODFREY:

Resolved,—"That the Medico-Chirurgical Society of Montreal has learned with deep regret of the sudden, although not unexpected, death of their late esteemed friend and associate, Henry Howard, M.D., M.R.C.S, Eng., the oldest member of this Society.

"That his regular attendance at our gatherings, his readiness to participate in discussions, and also the deep interest taken by our late associate in all scientific questions that came up before us, added greatly to the interest and attractiveness of these meetings; and that this Society desires to place on record the sense of the loss which has fallen upon them in his death."

DR. GEORGE ROSS moved, seconded by DR. T. G. RODDICK, "That the members of this Society extend to the family of the deceased their respectful sympathy in their present great bereavement, and that the Secretary be requested to forward a copy of these resolutions to the family of our late member and also give copies to the city papers for publication."

DR. PROUDFOOT then referred to the sudden death of Dr. Wm. Stephen in Buenos Ayres, and moved the following resolution, seconded by DR. T. G. RODDICK:

Resolved,—"That the members of this Society have heard with deep regret of the death of their late member and confrère, Dr. William Stephen, whose many good qualities and kindly disposition had endeared him to every member of the profession, and that a copy of this resolution be sent to the friends of the deceased."

ELECTION OF OFFICERS.

The officers of the Society for 1887-88 were then elected as follows:—

President, Dr. Perrigo. *1st Vice-President*, Dr. William Gardner. *2nd Vice-President*, Dr. Guerin. *Secretary*, Dr. Ruttan. *Treasurer*, Dr. J. A. MacDonald. *Librarian*, Dr. T. D. Reed. *Council*, Drs. George Ross, T. Rodger and A. D. Blackader.

NINTH INTERNATIONAL MEDICAL CONGRESS.

WASHINGTON, Sept. 6, 1887.

Section in Gynæcology.

DR. THOMAS MORE MADDEN of Dublin read a paper on

THE CAUSES AND TREATMENT OF BARRENNESS.

Few gynæcological questions come so constantly before us, and few, probably, are of greater practical importance, involving, as they do, not only the physical health of the patient, but also in many instances affecting the happiness and welfare of married life. For, at least in the country where my practice lies, child-bearing is still generally, and I believe rightly, held to be one of the chief functions of a woman's conjugal life, while to be sterile is commonly regarded as the protean source of marital trouble. In this paper will be found, in tabular form, a statement of the causes of sterility in 528 of the cases of infecundity which, occurring in married women within the child-bearing period, have come under observation in the gynæcological department of my hospital. The cases may be thus roughly divided:

1. Those in which barrenness was occasioned by sexual impotency or some physical impediment from the valvular orifice to the ovaria.

2. Cases of true sterility or conceptive incapacity from deficiency, congenital or acquired, structural disease, arrested developments, supra-involution, etc., of the uterus, or from analogous morbid conditions of its appendages.

3. Cases of barrenness from constitutional causes.

4. Cases in which the causes of infecundity are apparently moral rather than physical, such as sexual incongruity, etc.

According to this table, the most frequent cause of sterility is stenosis of the cervical canal. And as I believe the operative treatment of such cases, simple as it is deemed by some, requires more consideration than it generally receives, and frequently proves worse than useless from the disregard of certain details and precautions which I consider essential, I venture to recommend the use of a method of procedure and the adoption of instruments which I have found advantageous in the curative treatment of 380 cases of obstructive dysmenorrhœa and sterility traceable to this cause. During the present session 70 cases have been treated in my hospital, and in most of the cases I have had the able assistance of my friend, Dr. Duke, Obstetric Physician to Steven's Hospital, Dublin.

The essential features of the method of treatment are the separation by cutting and simultaneous forcible expansion of the affected parts, followed by dilation during the period of cicatrization, so as to prevent their subsequent contraction, and thus to secure the permanent patency of the erst occluded passage. To obtain this result I use three instruments, viz., a special form of uterine director, which can, generally speaking, be introduced into any cervical canal, however narrow, and along which a serrated, triangular guarded knife is made to travel up through the os internum ; thirdly, an uterine dilator of great power, by which any required degree of cervical expansion may be effectually secured and accurately gauged.

The influence of uterine flexions in the prevention of pregnancy and the treatment adopted in cases of sterility dependent

thereon are next described. So also is the management of aphoria when it results, as is frequently the case, from chronic endometritis. The methods found most serviceable in infecundity due to vaginal, uterine and ovarian causes are briefly reviewed. More fully dwelt on is the subject of conceptive incapacity from morbid conditions of the Fallopian tubes, as I regard stenosis, as well as occlusion of those ducts by vaginitis and its results, such as hydro- and pyo-salpinx, far more common causes of sterility than is usually thought. I also hold that such tubal diseases may be often removed without the resort to such serious operative procedures as the removal of the uterine appendages, by some surgeons considered imperatively necessary, and by them freely employed in such cases. Therefore I have referred at some length to those less heroic measures, such as aspiration and catheterization of the Fallopian tubes, the feasibility and successful results of which I have clinically demonstrated.

Finally, the question of sterility arising, as it frequently does, from constitutional disorders, and instances apparently irrespective of any physical cause, and the method of dealing with such cases, is treated of in my paper.

Dr. S. C. Gordon of Portland, Me., said he did not believe that cases existed where there was not enough canal for the semen to pass up. He believed with Dr. Madden that vaginismus had very much to do therewith. We must remember that we cannot raise large crops on barren soil. No one has done more for the relief of these conditions than Graily Hewitt, who is now with us. The uterus is in an abnormal position and you must return it to its normal position, as is his custom to do so with his pessary. Above and beyond this comes the Fallopian tubes and ovaries. The points concerned are (1) vaginismus and (2) uterine or pelvic congestion. He was convinced it is the Fallopian tubes and ovaries more than the stenosis of the cervical canal.

Dr. Graily Hewitt of London described his method of treatment carefully, and expressed his conviction that the good was done through the straightening of the uterus, not the dilatation. He believed it acts by straightening.

Dr. Lapthorn Smith of Montreal thought that in many cases the difficulty did not lie in the vagina, cervix, uterus, Fallopian tubes or Ovaries, but in the testicle.

Dr. D. T. Nelson of Chicago thought with Dr. Smith that in many cases the male is at fault. If the mucous membrane of the female is pale, anæmic, contracted, cicatricial, containing little blood, the sperm is not nourished, or if so, only for a few days. Sea bathing often does good, but only when the husband remains at home.

Prof. Graily Hewitt of London, England, read a paper on

THE RELATION BETWEEN CHANGES IN THE TISSUES AND CHANGES IN THE SHAPE OF THE UTERUS.

In order to determine more precisely the true relation existing between changes in the tissues of the uterus and changes in its form and shape, concerning which differences of opinion prevail, it is evident that the initial stage of these changes offers the widest field for inquiry. In describing uterine tissue changes the term "chronic metritis" is generally employed. It is desired to call attention to a tissue change sometimes observed on or soon after the arrival of puberty, especially in young women who have been inadequately nourished, consisting in undue softness of the uterine tissues, and associated with them in the beginning of uterine suffering. This undue softness is not "inflammatory" in its nature. It is associated with great flexibility of the uterus and generally with marked flexion. The author first described it ten years ago, and has repeatedly remarked it since. It has recently been noticed by Dr. Charles D. Scudder under the term "mollities uteri."

The recognition of the liability to occurrences of this initial change in the uterine tissues is to be regarded as very important, in the explanation of the origin and increase in degree of flexions of the uterus. In such case, the uterus being abnormally flexible, the flexion may be gradually and easily intensified by any ordinary exertion, but will be more likely to be much exaggerated and perpetuated by any severe and suddenly acting mechanical disturbance. The processes by which the uterus becomes permanently flexed may thus be slow or rapid.

Hardening of the uterus occurs sooner or later. After hardening the flexion is persistent. In some few cases the flexion may be the persistence of a congenital condition, or due to absence of developmental growth at the time of puberty, without undue softness being present.

In multiparæ, a somewhat analogous condition is present in what is known as "defective uterine involution," the uterine masses being soft and wanting in resistance. As is generally admitted, slow flexions frequently originate at such times and under such circumstances.

The author contends that the interference with circulation present with uterine congestion is, in most cases, due to association of a weak blood current, and mechanical compression of uterine tissue due to flexions present in such cases. The uterus being unduly soft, plastic, and mouldable, takes a flexed shape, which often becomes perpetuated by the hardening process described by Jacobi as the result of chronic metritis. One consequence of the latter is the presence of sclerosis of the uterine parenchyma. It is to be remarked that the incidents of some of the cases related by Putnam F. Jacobi favor the view that the flexion and displacement were operative in producing the menstrual subinvolution, rather than the cervical catarrh, which Jacobi assigns as the principal cause.

As regards endometritis, he considers the condition so described as more generally due to congestive hypertrophy of the uterine lining and to retained irritating secretion, and that, excluding gonorrhœal and syphilitic cases, the endometritis is secondary rather than primary.—(*New York Medical Record Report.*)

CANADA

Medical and Surgical Journal.

MONTREAL, NOVEMBER, 1887.

CHLOROFORM DEATHS.

Scarcely a number of the great London weeklies appear without a record of a death from chloroform. This sad tale has been going on for many years, and to all appearances it is likely to go on until some startling case will thoroughly arouse the conservative mind of the British practitioner. The sooner the better. If there is any fact certain in pharmacology, it is that chloroform is, of all commonly used anæsthetics, the most dangerous. That it is very much more dangerous than ether is well known to all who have had any experience with either of these agents. In spite of these facts, however, chloroform continues to be used as the common anæsthetic in many quarters, especially in England. It is difficult, indeed, for an outsider to understand this apparent disregard for the lives of his patients on the part of the British practitioner.

We have been led to make the above remarks from reading an account of a fatal case of chloroform anæsthesia, which appeared in the *British Medical Journal* for October 8th. The patient was a man, aged 45, admitted to the Bath Hospital. He was suffering from epithelioma of the tongue. The report says: "It having been decided to remove the growth, and a careful examination of the chest being made, chloroform was selected as the anæsthetic. . . . For about three minutes or so it took little effect; then there was a short period of excitement, but within five minutes he became calm, and I was about to commence. Up to this time the pulse had remained regular and firm, but on a sudden it began to flutter, and almost immediately

became imperceptible. Respiration was impeded, and so resort was instantly had to artificial respiration (Silvester's method). The patient breathed once or twice after this, but no trace of heart-sounds could be heard with the stethescope; and although every effort was made for more than half an hour with galvanic battery, injections of ether, and nitrite of amyl to the nostrils, no return of animation ensued; life was extinct. The quantity of chloroform used in all amounted to only a drachm and a half."

At the post-mortem examination the heart-muscle was found to be in a state of advanced fatty degeneration. Here we have a case of chloroform anæsthesia fatal from heart-failure, the usual mode of death. In spite of the clearest indications for the employment at once of vigorous measures for restoring the heart's movements, we find the treatment at first resorted to was for the object of keeping up the "impeded" respiration—artificial respiration. Instead of the latter, the patient should have been at once inverted. There is abundant testimony to prove that inversion of the body is the best means of restoring a heart that is failing or that has failed. It is a method that can be easily and quickly put into practice. Next to it in importance stands the application of cloths rung out of boiling water to the cardiac region. The use of ether hypodermically and amyl by inhalation are recommendable, but they are very subsidiary measures, and little can be expected from them when the heart has ceased to beat. No mention is made of how galvanism was employed in this case. It is an agent that is likely to do more harm than good. Two grave mistakes were made:

1st, The employment of chloroform instead of ether.

2nd, The failure to use those means which science has demonstrated to be the most efficacious in restoring a failing circulation.

An interesting feature of the case is the proof of the thorough untrustworthiness of relying upon a stethoscopic examination of the cardiac region at the time of operation to decide whether a patient has a fatty heart or not.

The only redeeming feature about the whole business is the honesty of the surgeon in reporting his case in all its details.

TRAUMATIC TETANUS.

From recent researches by Dr. Shakespeare of Philadelphia, it would appear that there is something after all in the attempts recently made to make the traumatic tetanus of horses an infectious disease. He concludes that during the progress of this disease in the horse, there is a virus elaborated and multiplied which is capable of producing a similar disease in other animals when placed beneath the dura mater of the cerebrum, and that this virus is contained in the medulla and spinal marrow of the animal suffering from the disease. This virus increases in virulency when injected from rabbit to rabbit; and, further, the virulency is much greater when the virus is injected under the cerebral dura mater than when injected under the skin or between the muscles of the back. In these respects it resembles the virus of hydrophobia.

Dr. Shakespeare thinks that many cases of traumatic tetanus in man are traceable to infection from the lower animals.

APOHAQUI WATER.

Recently there has been discovered a valuable mineral spring at Apohaqui station, on the Intercoloniul Railway. It is an alkaline water, closely resembling in composition the famous Vichy water. The following is the chemical composition as made out by Mr. Best, the Government analyst at St. John, N.B.

In 100,000 pints of water there are of

Potassium Sulphate	.50
" Chloride	1.08
Calcium Carbonate	1.25
Sodium Chloride	76.06
" Bicarbonate	201.60
Magnesium and Iron	Traces.
Silica	.90
Organic Matter	Traces.
	281.83

It will be observed that, after the sodium bicarbonate, the most important ingredient is sodium chloride. It is well known that sodium takes a most active part in promoting tissue growth and the general metabolism of the body.

As Apohaqui water is pleasant to take, being entirely free from either a bad odor or taste, it is admirably suited for the treatment of those very common deranged nutritional states arising from chronic gastric and intestinal dyspepsia. It fulfills the prominent indications in the treatment of lithæmia. From its composition, we should judge that it will prove serviceable in that numerous class of cases of chloro-anæmia where iron and its congeners are not tolerated until the gastric and intestinal mucous membranes are restored to a normal condition.

Apohaqui Water also possesses the valuable property of emulsifying oils, especially those of the fatty kind. Added to cod-liver oil in equal parts, it forms a perfect emulsion. This emulsion has now been employed in the Montreal General Hospital for some time back, and gives great satisfaction. From a considerable experience of its use as a vehicle for the administration of cod-liver oil, we feel confident that it will replace all other agents used for this purpose. In the administration of this emulsion it is well to remember its alkaline properties, and that therefore it should be given some time after the meals—about that period of digestion when the contents of the stomach are making their way into the duodenum; that is, from an hour and a half to two hours after eating. By giving it at this period there is more certainty of its being quickly absorbed, and therefore less liability of it interfering with gastric digestion. For lithæmic and gouty states, Apohaqui water had better be administered on an empty stomach. For acid dyspepsia, a short time before meals.

McGILL UNIVERSITY, FACULTY OF MEDICINE.

The fifty-fifth session of the Medical Faculty of McGill University was opened by an address from Sir James Alexander Grant of Ottawa, on Monday, October 3rd. The address, which we publish in full, was delivered before an audience composed of the Principal (Sir William Dawson), the Dean (Dr. Palmer Howard), the entire teaching staff of the Faculty, and a body of students considerably over two hundred in number.

On the same evening, the Dean and Medical Faculty of McGill

University entertained Sir James Grant and a few guests at dinner at the St. James' Club. It proved a very pleasant re-union, and was thoroughly enjoyed by all. The Dean, Dr. Howard, proposed the health of Sir James Grant. The distinguished guest had kindly come from Ottawa at the express invitation of the Faculty to deliver the opening address of the session. All would join with him in saying that this had been listened to with great pleasure, and that they were much indebted to the able lecturer for the admirable remarks he had been pleased to make. Sir James was a graduate of McGill College, a former pupil of his own he was proud to say, and had in this jubilee year been the recipient of a very high honor from Her Most Gracious Majesty. His university took this opportunity of congratulating him upon the event and of tendering him their best wishes that he might live long to wear his decorations. Sir James Grant is well known as a warm friend of McGill College and a foremost worker for the promotion of a high educational standard in this country; he has also done good service in directing attention to the importance of sanitary science and the necessity for Dominion action in this direction.

Sir James Grant, in replying, said that he felt proud of being asked to perform the duty which he had fulfilled this day. He had always a warm spot in his heart for his Alma Mater. He felt that the Faculty was composed of men who would maintain the teaching of their school on a level with that of the best European institutions. He compared the facilities of the present day and the excellent equipment of laboratories, etc., with the meagre accommodation of twenty years ago, and insisted upon the happiness of being a medical student of to-day and predicted a great future for those now passing through the schools. He alluded to his recent visit to the International Medical Congress at Washington, where he had met numbers of McGill graduates, many holding positions of trust and importance, and well able to take their part in this great meeting of *savants*. He was glad to see some of his old fellow-students still attached to the Faculty, and spoke of others who have done good work in it. He concluded by proposing the "McGill University."

Sir William Dawson responded, speaking of the work done in the various faculties and of the difficulties in the way of higher education in this Province. It gave him great pleasure to see the extent to which graduates of McGill were taking foremost places in the country—in law, in medicine, in ecclesiastical circles, in the judicature, etc. He proposed "The Medical Faculty."

The Dean, in reply, said that whatever success had been reached by the Faculty was largely due to the uniform harmony and good-will which had always existed amongst them. The members were all of them pervaded by a love of the labor, which accounted for the uniform regularity with which the work of the various departments was carried on. Most of the professors were our own graduates: the principle in making such appointments had generally been found to work extremely well. He read an interesting letter from Surgeon-Major Keefer, showing the success met with by this distinguished alumnus in a military career in India.

Prof. MacCallum then proposed "Our Sister Universities," stating that there had always been the best of good feeling between McGill and the other Universities. This sentiment of mutual regard it was most important to cultivate, and he trusted it would always continue.

Dr. F. W. Campbell, Dean of the Faculty of Medicine of Bishop's College, responded, returning the kindly words of the former speaker, and averring that though he had assisted in the formation of a rival school, he had never ceased to hold the same affection for, and to speak as highly as ever of, his Alma Mater, McGill.

Prof. Craik proposed "Our Guests," and responses were made by Dr. Rodger, chief surgeon of the G.T.R., Dr. Charles, of Rome, Italy, and Principal McEachran, of the Veterinary School.

The health of the Dean was given by Sir James Grant, and received with much enthusiasm, and a very successful gathering was closed by the singing of the National Anthem.

Obituary.

Henry Howard, M.D., M.R.C.S.E.

It is with much regret that we have to announce the death of this well-known and much-respected physician of Montreal. Dr. Henry Howard was almost, if not quite, the oldest practitioner of this city, and he continued to perform his professional duties until within a few days of his death. He was, above all things, a warm-hearted, sympathetic, genial Irish gentleman, possessing an unusual capacity for interesting himself in that which would be of use to others, and eager at all times and at any sacrifice to himself to promote the general good. Advancing years never took from him the keen interest in scientific matters which he had pursued with such zest as a younger man, and nothing gave him such pleasure as to take part in discussions at our medical societies or privately with his younger medical friends. At such meetings the familiar figure of the stately old doctor, with flowing patriarchal beard, will long be missed; and amongst his friends—and no one ever had more or more genuine—his memory will long be cherished. His kindly wit, free from all tinge of malice—his animated discourse—his thorough honesty of purpose and manly straightforwardness in everything, made him respected by all and beloved by those who knew him well.

Dr. Henry Howard was born in Nenagh, County Tipperary, Ireland, on the 1st December, 1815, and studied medicine in Dublin under the celebrated Dr. Jacob. He received the M.R.C.S. in London, England, in 1838. He came to Canada in 1842, residing first in Kingston, and removing to Montreal in 1845. Possessed always of a philosophical mind, and fond of metaphysical problems, he became absorbed in the study of mental disorder, and accepted the appointment of Medical Superintendent of the Provincial Lunatic Asylum, then at St. Johns, and on the removal of this institution to Longue Pointe, continued to act in the same capacity. It is but right to say that, had Dr. Howard been listened to, the abuses described by

Dr. Tuke would never have existed, for he constantly urged the necessary reforms, but the contract system is powerful, and has so far prevailed.

Dr. Howard was fond of writing, and was a frequent contributor to various medical journals, his topics being mainly those in some way connected with his specialty. He published in 1882 a *brochure* upon "The Philosophy of Insanity, Crime and Responsibility," which excited widespread attention, critics being divided upon its merits—some holding that the doctor's views were those of our coming alienists, whilst others found them Utopian and impossible.

Requiescat in pace! A brave, manly life, fought with unwavering cheerfulness through many and great difficulties, and laid down at last with the quiet calmness begotten of conscious rectitude.

Medical Items.

—At a meeting of the Aberdeen University Court on the 6th ult., a motion by the Lord Rector that the graduation oath in medicine and in arts should be abolished was agreed to.

—By the death of Dr. Francis Ogston the last representative of the able group of men who started the Aberdeen School of Medicine is gone. Dr. Ogston was a teacher in the University for half a century.

Dr. Joseph Meyer, the director of the Royal University Policlinic of Berlin, is dead. For many years he occupied a leading position as consultant. His predecessor in the Policlinic was the distinguished Romberg.

—An institution that gives promise of success has been established at Burlington, Vt., by Dr. A. J. Willard, a graduate of Yale College and the Medical Department of the University of Vermont, for the special treatment of nervous disease by the Weir Mitchell method of rest, etc.

Professor von Langenbeck, the distinguished German surgeon, died on the 29th September at the advanced age of 77 years. For 35 years he was Director of the Royal Surgical Clinic in the University of Berlin, the most important surgical position in the German empire. He was the founder and the first president of the Association of German Surgeons. He has done much to advance surgery in general and conservative surgery in particular. He was a great surgical teacher. His pupils are now the leading surgeons throughout the German and Austrian empires. Billroth, Nussbaum, Bergmann, Volkman, Socin, König and many others were taught by him.

Bromo-Soda.—"On a recent trip to Europe, on both the outward and homeward passages, I used Warner & Co.'s *Effervescing Bromo-Soda* with great success in preventing and relieving sea-sickness. The quantity given was a heaping dessertspoonful, repeated hourly if necessary. I believe Bromo-Soda to be a very valuable preventive and remedy for sea-sickness; it certainly was unfailing in my hands."—*Wm. H. Keim, M.D.*, 2015 *Ridge Ave., Philadelphia.*

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THE UNIVERSITY IN RELATION TO PROFESSIONAL EDUCATION.*

By Principal Sir J. W. Dawson, C.M.G., LL.D., &c.

Mr. Chancellor, Gentlemen of Convocation, Ladies and Gentlemen:

The subject of this lecture has been selected on account of its interest and importance at a time when the educational and professional privileges hitherto possessed by the English-speaking minority in the Province of Quebec are threatened with curtailment or extinction; but I shall treat of the subject in its more general aspects as well as with reference to the present crisis.

The original relation of the universities to professional education is probably that which depends on the fact that certain professions are and have been recognized as learned professions which require for their adequate prosecution not merely an apprenticeship to a master, but also a preliminary general education and a particular education of a professional character, carried on by specialists and rising above the possibilities of a mere apprenticeship.

It is scarcely too much to say that but for the requirements of the four great professions of the Christian ministry, education, law and medicine, the older universities would not have been organized or sustained, and in modern times a variety of professions, depending for their prosecution on a training in scientific principles and processes, have been added to these, for which the university must provide. This, let it be observed, is not in the interest of the university or of the professions as such, but of the

* Annual University Lecture of McGill University, Session of 1887-88.

public, which is served by the professions. It is in order that there shall be provided, for the benefit of the community, a succession of suitably educated and trained men to sustain the character and efficiency of those higher professions which must be efficiently provided for in every civilized community.

THE PROFESSION OF THE EDUCATOR.

Let it not be forgot, that in this aspect of the matter, the educator is himself a professional man, and that this profession of education is the highest of all from a civil and social point of view, and must be maintained by the State in the highest possible state of efficiency for the benefit of all the other professions to which it is subsidiary. Nor is this a mere theory. It is sustained by the practice of all civilized nations. The profession of the educator has been supported and regulated by the Government in a manner more careful and thorough than any other profession whatever, and the importance of this is daily more recognized in all the more advanced communities. In this respect the large sums given out of the public chest to support teachers, and the institution of special governmental departments for their encouragement and supervision, testify to the fact that education is recognized as the fundamental profession. It is, I know, pretended by some persons in this country—(I say pretended, for I believe it is a mere pretence, intended to influence the more ignorant)—that the care of the state should be limited to the support of merely elementary schools. But the experience of all the more advanced countries shows that such limitation is not consistent with the welfare of the community, and least of all with that of the poorer portion of it; because if the hlgher education is left entirely to private enterprise it may become a luxury of the wealthy, so that the poorer man not only loses its benefits, but the state loses the advantage that might accrue from the training of such high talents as God may bestow on the children of poor men.

The higher education is sometimes compared to the apex of a pyramid or to the ornamental capital of a column, but the comparison is only in part correct, for this kind of education furnishes the only adequate means of strengthening and broadening the

popular culture by the provision of skilled and educated teachers, and by that reflex influence which an educated class necessarily exercises on the whole community. A more fitting and accurate analogy would be with the mutual relations of the leaves and roots of a tree or that old apostolic one of the mutual relations of the head and members of the body, all knit together by mutual interest and each contributing its part to the life and growth of the whole.

The appreciation of this great principle is testified not only in the mother country but in all the colonies that she has sent forth. The foundation of the two great New England colleges of Harvard and Yale dates from the beginning of those colonies, at a time when they were passing through a hard and desperate struggle for existence. The bequest of John Harvard, a minister of Charlestown, in 1638, is believed not to have exceeded eight hundred pounds, if it amounted to so much, with 260 volumes of books, and it could be supplemented only by a smaller one from the State, and by gifts, some so small as a few shillings, from the poor immigrants then almost houseless and nearly penniless. Yet that was the beginning of the educational and scientific greatness of New England. All the later colonies in turn, and eminently those in the great island continents of the South which were unknown in the time of John Harvard, have emulated the example of Massachusetts, some of them on a magnificent scale. Harvard, like the old colleges of Europe, began its life as an institution mainly theological, but like them it has steadily developed in the direction of professional and scientific training, and most of the newer colleges and universities have been professional as well as general schools from the first.

PROFESSIONAL FACULTIES OF M'GILL.

McGill University has, I need not say, adhered to the traditional policy of the older universities. Its medical faculty took the lead, and, as the Montreal School of Medicine, preceded the organization of the other faculties. From the first its staff of professors and hospital facilities made it the principal school of medicine in Canada, and it has kept this leading place ever since. With us it was followed by the faculties of arts, law and applied

science, and by the affiliation of four theological colleges, so that our faculty of arts or academic faculty proper is now surrounded by the buttresses afforded by all these faculties and colleges, as well as by the admirable college for teachers, which is furnished by the McGill Normal School, and I think we are now taking the lead of all Canadian colleges in provision for the independent higher education of women. The extent of our professional work is measured by the fact that our university lists include, without reckoning those removed by death, about 890 Doctors of Medicine, 376 Bachelors of Civil Law, 102 graduates in Applied Science, and no less than 1,196 teachers. We have, perhaps, no right to include the graduates of affiliated theological schools; but I am informed that in the present session these have about 150 students, so that a great work is being done by them in preparation for the Christian ministry and is materially aided by the university. In the present session, of nearly 600 students on our university lists, at least 350 are professional students, while many others are preparing to enter on professional study.

That we have been able to do all this almost without State aid, and without any jarring or conflict of the many and diverse interests involved, is, I think, a source of justifiable congratulation. I do not say of pride, for I feel that while we have been enabled to do much, there is still much to be done, and that we still fall short of adequate provision for the wants of our time and country. My real feeling is, and always has been, one of regret that our means of instruction do not grow more rapidly and are still so inadequate.

OUR POSITION IN THIS PROVINCE.

The question of professional training has recently assumed a new aspect in the Province of Quebec. From the first we have had the difficulty that the law of this Province, unlike that of any other civilized country known to me, refused to recognize the degree in arts as an adequate guarantee of a liberal education, and thereby took away from our young men one inducement to avail themselves of the higher education provided for them here by the endowments of our universities. But to compensate for this, the courses of professional study were left un-

trammeled, and certain important privileges with reference to practice were conceded to the professional degrees.

Since Confederation, the power of educational legislation has been wholly in the hands of the Provincial Legislature, with only the restriction that it has no right to withdraw from the English and Protestant minority such privileges as it possessed before Confederation. For some years this guarantee was respected, and it has not been directly infringed. But recently excessive and arbitary powers have been given to some of the public bodies representing the several professions, whereby they may exercise complete control over the professional courses of the universities, and may, if so disposed, practically destroy the educational institutions of the minority. It is also understood that similar powers are desired by other professional bodies. I refer only to the minority, because as the great majority of the professional men have been educated in the Catholic colleges, these institutions and the professional education connected with them may be considered comparatively free from attack.

In effect, the tendency of recent legislation in this Province has been to destroy the guarantees of the minority indirectly, by conferring powers not possessed by the Legislature itself on irresponsible professional bodies which, though they bear different names, we may designate as professional boards or councils.

I do not propose to enter at length here into the discussion of these grievances, but desire emphatically to state my conviction:

1. That the system of education, general and professional, pursued by this University is that required for the interest of the English and Protestant population of this Province, though different in many of its details from that in use among the majority of our people.

2. That no benefit can result to this Province from the extirpation of the English system of education.

3. That the measures recently pursued and tending to this result are contrary to the guarantees given at the time of Confederation and unjust to a very important section of Her Majesty's subjects in this Province.

If we turn now to the essential elements of the question before us, we shall find that these resolve themselves into two portions:

(1) The preparatory education required for entrance into professional study, and which is not itself professional, but general; (2) The strictly professional courses of study which the University provides, and the value to be attached to the professional degrees bestowed by the University on examination at the close of its course of study.

PREPARATORY TRAINING.

With reference to preparatory education, the surest and best guarantee that can be exacted as to this is the possession of a degree in arts. In many parts of the world the attainment of such a degree is required as a necessary preliminary qualification, and everywhere except in the Province of Quebec it is acknowledged to be sufficient. The reason of this is evident. A student who, after qualifying himself to matriculate in the faculty of arts, enters on a regular and systematic course of study extending over three or four years, passing in the course of this time probably six or more rigid written examinations, each of which marks a step in his mental development, and finally graduating as Bachelor of Arts, possesses evidence of a good training which no examination of a professional board, however severe in appearance, can possibly secure. It may be said that the degree may be obtained in some quarters on easier terms than in McGill, but I have no hesitation in maintaining, from my own personal knowledge, that the statement made above is true of every British and Canadian University, and that the degrees of all might be accepted with perfect safety. Nay more, the examination in the middle of the college course, and which we call the "Intermediate," would afford an ample guarantee for a liberal education, and Ontario goes so far as to accept even the examination for entrance into the faculty of arts, which in my judgment is equal to anything that any of our professional boards can obtain by their special examinations. The absurd and unwise policy of our professional councils in this one respect has, to my certain knowledge, tended to discourage liberal education, and to fill the professions with under-educated men, more than any other cause whatever, and it has opposed a most serious obstacle, and one not existing elsewhere, to the development of

our higher academical course. It presented this aspect to me when I came to this country. I was then surprised to find such a discouragement to higher education in a British colony, and I find, on reference to our minutes, that I directed attention to it publicly thirty years ago. As a consequence of this disability, I find that in our own lists of nearly 900 medical doctors, only 65 have the arts degree; of 376 bachelors of civil law, only 53 have the degree of B.A.; and of 100 graduates in applied science, only 7. All the rest have gone into their professions with lower grades of educational preparation, and this has been the work, not of the University, but of the professional councils acting in opposition to its interests. In this matter of the validity of the degree of B.A., not only are the graduates of McGill and Bishop's College interested, but those of Laval as well; and Laval is the more concerned, in that it has recently established an Arts course in Montreal as well as in Quebec.

But while I hold that the degree of B.A. should be accepted, and thankfully accepted, as a qualification for professional study, I do not believe that this country has yet attained to a stage in which it can be made imperative. It is still probably necessary to take on examination candidates who have merely received the education of colleges and academies not having the power of giving degrees or of training up to the university standards. Here it may be useful to state a few distinctions. The education which can be given by a high school or collegiate institute is not that of specialists, but of general teachers. It furnishes a good foundation for subsequent culture, but has not that finish and completeness which can be given only by study under men who are eminent specialists in their own departments. This is the particular sphere of the higher university work. Farther, if a degree were exacted as a necessary qualification this could inflict no injury on the preparatory schools. They are the only avenues of entrance into the university, and the greater the number who go on to the faculty of arts, the better. It would be a suicidal policy on the part of high schools to cultivate the idea that no further education than their own is useful, since by doing so they would limit their own function and diminish the number of those who will take their full course. Yet for some mysterious

reason it has been held by the friends of certain so-called colleges in this Province that it is an injury to their alumni to acknowledge the standing of men who have taken a higher and more complete course, and this unreasonable jealousy has hitherto prevailed with the Legislature.

Supposing, however, that a large number of candidates for professional training cannot or will not subject themselves to the discipline of a regular university course, and that an examination should be provided for them, this should at least be fair, and connected with the general educational system. The professions are not themselves educators. They depend for preliminary training on the different and equally elevated profession of the teacher : and the teacher works under a system carefully planned and administered under the public educational authorities. But in this Province both the functions of the teacher and the Department of Education have been usurped by professional councils under improvident and reckless legislation. Every profession settles for itself the subjects of its examinations independently of other professions and of the programme of education fixed by law. Thus the teacher, instead of being able to pursue a definite and proper system under the regulations imposed on him, is made the sport of every candidate for this or that examination, has his time frittered away, and finds himself obliged to become a mere crammer for different examinations instead of being truly an educator. This is an intolerable evil at present inflicted by the professional bodies upon the young men and the teachers of this Province, and through them on the community as a whole ; and if in defiance of common sense, sound policy and the public interest, they continue to demand such powers for the purpose of protecting them against the competition of better educated men, a special tax should be levied on them to pay for the costly protection which they claim ; but even this could not compensate the public for the injury inflicted on education.

But another element of injustice is introduced into this monstrous abuse by the fact that the educational system of the French majority is favored by the professional boards, and that of the English minority unduly discountenanced. The evils of this may be briefly stated as follows :—

1. The Protestant population possesses, under legislative sanction and under the control of the Protestant Committee of the Council of Public Instruction and of the Department of Education, a complete course of study, extending from the Elementary schools to the Universities. In this course, definite and rigorous examinations are conducted in every grade by the best examiners the Province can afford, and it is believed that this system provides an education equal to that exacted in any for entrance into the study of the learned professions. The certificates and degrees based on this course of study and its examinations are now accepted for the above purpose in the other Provinces of the Dominion, and also in the medical and law schools of Great Britain and Ireland. The fact that they are invalid within this Province is a discouragement to good education, an injustice to young men endeavoring to prepare for professional study and a most unmerited disparagement of our educational institutions.

2. It is held that the councils of the several professions should content themselves with fixing the stage in the general education provided under the educational law, which may be necessary for entrance into professional study, and should allow the attainment of this to be ascertained by examiners under the two committees (Roman Catholic and Protestant) of the Council of Public Instruction. Should the professional bodies desire any amendment in the course of study, this can best be attained by application to the educational authorities charged by the law of the Province with this duty. In other words, the work of general education belongs to the authorities specially charged with it by law, and any modifications desired by the professional bodies should be obtained through these authorities.

3. Special injustice is inflicted on the Protestant population when only one preliminary examination exists, and this based principally on the educational methods of the majority, which are in many respects dissimilar from those of the Protestant schools, even when the names designating the subjects are the same. This is aggravated by a scale of marking attaching great comparative value to subjects such as "philosophy," as taught in the system of the majority, and to which Protestant educators

do not attach so much importance as a part of preparatory education. It must be borne in mind that the methods and results of the two systems of education existing in this Province are different even in subjects nominally the same, and that philosophy in the English Protestant system is a subject taken up by students of mature minds in the higher part of the university course, whereas in the French schools it consists of study of a text-book based on a system not acknowledged by Protestant educators.

4. Whatever opinions may be entertained as to the relative values of the Roman Catholic and Protestant systems of education as existing in this Province, it is certain that both are recognized by law, and that in the Confederation Act guarantees were given to the minority that its system would not be interfered with or rendered invalid for practical purposes. It is believed also that the Protestant system has proved itself at least equal to the other, even under the present disadvantages. It is not desired here to insinuate anything distasteful to the majority. They have a right to adopt the system which suits them. We only affirm that our system is the best for us, and that as it is recognized by law, we have a right to have it respected.

This matter of preliminary education has been well put by my friend Dr. Heneker, the Chancellor of Bishop's College, in the following terms :—

" But it is well known that the Roman Catholic and Protestant theories of education in this Province differ widely, and have so differed for many years before, as well as since, Confederation. It is only necessary, in proof of this assertion, to point to the two committees of the Council of Public Instruction entrusted with the oversight of public education in this Province. Applying this recognized fact to the case in point, of the powers given to the general council of the Bar to prescribe a programme of study, and it will be seen that this programme may be, and most likely will be, based on the Roman Catholic theory of education alone.

" A mere enumeration of subjects taught in the schools and colleges might lead a superficial observer to believe that the same system is in force in the schools of each class of the popu-

lation, but the practical educationist knows that, even in the study of Latin, Greek and Mathematics, different systems and different text-books prevail, and that in History, Philosophy and some other subjects, fundamental differences exist.

"Apart from the different method of teaching, and the difference in text-books used in Roman Catholic and Protestant schools, Roman Catholics give a certain amount of training in their colleges in philosophy. I am not aware to what extent this is carried, but I am informed it differs materially from the treatment of the same subject in the Protestant universities, where it forms with Logic and Rhetoric a part of the B.A. course. It is, however, not taught in Protestant academies or high schools. It is treated as an advanced subject, and forms, as above stated, part of the university course.

"It is not, therefore, unreasonable to conclude that the Bar act of last session, by the provisions above referred to, unintentionally no doubt, but not less really, did strike a blow at the system of education in vogue amongst the Protestant minority, and infringed on the rights and liberties of Protestants as guaranteed, or supposed to be guaranteed, at Confederation.

"It may be claimed that the Roman Catholic members of the General Council have never infringed, or intended to infringe, on Protestants' rights or privileges, and have invariably treated their Protestant *confrères* with courtesy and liberality. I believe this to be true so far as intention goes, and I am the last man in the world to raise a religious or sectional cry amongst a population so mixed as that of this Province. But I hold that such grave matters should not be left to good-will or good intentions. All that is claimed by Protestants is to have equal rights with their Roman Cathoiic fellow-citizens, and the best way to secure good-will is to have the terms of the agreement strictly defined. What is needed, therefore, is that there shall be two separate Boards of Examiners for the examination of candidates seeking to enter on the study of any or all of the professions—one of these Boards to be representative of the Roman Catholic system of education, the other of the Protestant system.

"In this way, candidates will be examined under the system of the schools in which they have been educated, and the rivalry

will be without jar, leading to no feeling of injustice or want of harmony."

But lest these should be regarded as *ex parte* statements, and in justification of the strong language used by Dr. Heneker and myself, I may further quote from an official document put forth under the authority of the Protestant Committee of the Council of Public Instruction, and prepared by its secretary, who is also the English departmental secretary, and perfectly conversant with the facts:—

"Under legislative sanction the Protestant committee has put into operation a complete course of study, which leads by regular steps from the lowest class in the Primary school through the Protestant Superior schools to the last year of the University course. This is a thorough course, similar in its extent and requirements to that followed in the sister Provinces of the Dominion, in the United States, and in England. In the superior schools where this course is followed the young men from the Protestant section of the population receive their education, and they have a right to expect that, after they have completed a course sanctioned and subsidized by the Legislature of the Province, their course of study will be recognized in any provisions which the Legislature may make for literary examinations. Protestant young men find, however, on presenting themselves for the examination for admission to study prescribed by the Council of the Bar that the examination is based upon the course of study followed in the Roman Catholic Superior schools, and that their own course of study has not been considered.

"These disadvantages and difficulties under which candidates from Protestant Superior schools are thus placed arise from three prominent differences in the courses of study followed in the Roman Catholic and Protestant institutions.

1st. There is a difference in the subjects included in the two courses. For example, the subject of "Philosophy," which forms a prominent feature in Roman Catholic Superior schools, is entirely unknown as a school subject among Protestants."*

* The usual text-book in the Catholic colleges is the "Manuel de la Philosophie Chretienne," by Sanseverino, a work which I would commend to the notice of those desirous to form a judgment of the probable tendencies of education in Quebec.

2nd. The order in which the several subjects of the course are presented to the student is quite different in the two courses. Elementary mathematics, which comes in at a very early stage in Protestant schools, is postponed to a much later point in Roman Catholic institutions.

3rd. There is a marked difference in the two courses as to the relative importance attached to the different subjects, as indicated by the marks given for the several subjects and by the percentage required to pass according to the Bar examination. For Philosophy, 250 marks are given and half marks are required to pass, whereas for the five subjects—Arithmetic, Algebra, Geometry, Chemistry and Physics—only 250 marks are given, and one-quarter of total marks and one-seventh marks in each subject are required for passing. Such a system of marking bears very heavily upon candidates from Protestant Superior schools which give prominence to the last five subjects and omit Philosophy.*

"It is evident from these references, which could be multiplied, that the action of the Council of the Bar and all similar action is a serious interference with our Protestant Superior schools. Under the circumstances it seems only right and reasonable to demand, on the part of these institutions, that these difficulties be removed, either, first, by providing two separate examinations based upon the courses of study followed in the Roman Catholic and Protestant institutions respectively, or, second, by having one examination so far as the courses of study are in common, and allowing options when the two courses diverge."

I may here close the case of the English and Protestant professor and teacher against the tyranny of those who should be professional brethren, and may, I think, appeal to the sense of justice of all men as well as to the sympathies of friends of education, and of those who regard those great interests of our country which are to be secured by the mental culture of its people and by a high standard of professional training.

* At a recent meeting the Council of the Bar, while refusing all other amendments, has condescended to say that a smaller number of marks in "Philosophie" shall be exacted of the Protestant candidate.

PROFESSIONAL COURSES AND DEGREES.

With reference to that training which is more properly professional, the University may be supposed to have less direct concern, and here it is admitted that the several professions have each a right to assert a control which has no place in the matter of general and preparatory culture. Admitting this, a proper regard should still be had to the function of the University as the only body prepared to give the higher culture required for professional life at the present day.

THE FACULTY OF MEDICINE.

This may, perhaps, best be defined by considering first the work of the faculty of medicine as existing in this University. In this faculty there is a course of study and practice extending over four years, in which the student has the benefit of the instructions of fourteen professors, all of them men of high standing and specialists in the subjects which they represent, besides several skilful tutors and assistants. He has also a long course of clinical instruction and the use of well equipped laboratories, and he is subjected to rigorous examination in each year of his course and must make good every step by passing such examinations. This school, attended by more than 230 students from all parts of the Dominion, receives no aid from the medical profession as such, nor any from the Provincial Treasury, and little from any source except the fees of its students and the endowments given by liberal friends of education. Its building is provided by the University. Its course of study has been kept up to the level of the highest schools of other countries by the zeal and devotion of its professors, and the training which it gives enables its alumni to take their places with the best graduates of the best schools abroad. Its degree has heretofore been recognized as entitling to receive a license to practise without any farther examination, and this privilege it is entitled to retain under the Confederation Act, unless it can be proved that its course of study has fallen off since Confederation, which is, however, in every respect the reverse of the fact.

The Medical Council, or College of Physicians of this Province, now has in contemplation legislation with the view of interfering

with the course of study in the English medical colleges and assimilating this to those of the French schools, and of taking away the privilege attached to a degree and subjecting our graduates to an additional examination before examiners selected by the council, as if they were merely candidates coming from an apprenticeship with some obscure practitioner and desiring to be examined for a license. This is returning, as far as may be, to the old method now obsolete everywhere, except in a few of the less advanced countries of Asia and Africa, where there are no great schools of medicine and where the prospective physician picks up his training by acting as assistant to some venerable hakim, whose chief object is to take care that the student follows in the ancient ways and learns no new ideas from such Frankish practitioners as may stray into his practice, and whom he detests, and expels when he can. I do not say that this is the end the Medical Council has in view, but it is from this condition of the profession that we are delivered by the existence of the medical schools of the universities and by them alone.

In the mother country the Medical Council, consisting of men at least as eminent in their profession as our Quebec practitioners, is content to exercise a general supervision over the work of the universities, and to admit that their faculties are the best judges of the course to be followed and the tests of proficiency to be applied. It is true that in Ontario a different course has been followed, but this seems to have in some degree been forced on the profession in that Province by a depressed condition of the medical schools, not existing here, and of which there is further evidence in that Province in the attempts made by the profession to obtain legislation to exclude British graduates from their domain. It is also true that an Ontario university has adopted one of the medical schools of Quebec, and has enabled it to obtain degrees which would be invalid in Ontario as entitling to license, but it is claimed are entitled to the privileges of our law. This abuse should, no doubt, be remedied; but it affords no reason for diminishing the prestige and standing of our own universities. And here, also, I may say that the true interest of the great medical school of Laval is identical with our own and with that of the general public.

THE REMEDY.

The question remains, what is the remedy for the evils to which I have referred? Here I must confess at once that I expect little for the present from the councils of the medical and legal professions. They have persistently refused all our appeals, and seem possessed with a determination to break down the professional education of the country in the interest of a personal monopoly and of race prejudices. To them I, for one, after having taken much pains and made some personal sacrifices to inform them as to the precise position of the University, and to bring them to a different state of mind, am not disposed to make any further appeal, though I hope that, in the interest of sound principles, our representatives on these boards will continue to protest against their policy. I shall also continue to cherish the belief that a better spirit exists among the professional men whom the councils represent, and very many of whom I know disapprove of the policy which has been pursued.

With reference to this I may mention that one of our graduates has suggested that if a petition were circulated among the members of the legal professions, it might be found that the recent educational action of the Council of the Bar is not in harmony with the views of those it is supposed to represent. The experiment is perhaps feasible, and in any case it is important that the profession generally should be informed as to the tendency of the regulations of the Council; which is, however, under its present constitution, a body of such character that it is more likely to reflect the opinions and interests of any permanent officer than that of the profession as a whole.

The case is different with the Legislature. This represents the whole people, and it is the interest of every man and woman that those to whom we entrust our health, our character and our estates shall be well educated and able men. It is the interest of every father and mother, and of every young man selecting his profession, that the great institutions for professional training shall not be overridden and their gates closed by the selfishness of trades unionism. I know that the power of privileged classes is great, that the professions have an undue weight in the Legislature, and have already secured oppressive and arbitrary enact-

ments; but I feel that the public interest must in the end prevail, that free and open educational competition must eventually be sustained, and that if the present policy be persisted in it will in the end be swept away by a torrent of popular indignation. I go farther than this, and maintain that if professional narrowness endeavors to support itself by an alliance with even ecclesiastical and political power, they also will be swept away along with it, as we have seen them swept away in our own time in France and Italy, because of alliance with similar abuses detrimental, or supposed to be detrimental, to the public interest. I hold, therefore, that it is our first duty to present our case to the Provincial Legislature, in the hope that the common interest of the whole community will prevail over merely private and professional gain.

Failing this, we still have under the Confederation Act the right of appeal to the Dominion Government; and since our case is substantially that of the Catholic minorities in the other Provinces, and since we can show that while their educational rights have not only been maintained, but greatly extended under Confederation, ours are being curtailed, the Dominion Government can scarcely fail to listen to our case, more especially as recent events have shown that every loyal subject of the Dominion and of the British Empire must stand firm against the aggressions of local party spirit.

Should the Dominion Government fail us, we have under our royal charter a right appeal to the Crown, and if we can show that in this part of Her Majesty's dominions there is any danger that the rights of free and open education and the principles of that Protestant liberty which is the religion of the Empire are in danger of being destroyed, we may hope for some measure of relief, or, at least, of sympathetic aid, on the part of the just and generous people of the mother country.

Lastly, if no other means are left, we can trust to God and our own right hands as our fathers have been wont to do in times gone by, and can secure for our sons and daughters the education which we desire at our own expense; and if all legal powers and privileges are refused to us, can at least cherish enlightenment and sound culture for their own sakes, and from the con-

viction that they will in the end be profitable even in an economic sense. Hitherto the English population of Montreal has in effect done this, more especially with reference to education in arts, and it has been its pride that it has established institutions to which even the students of the other Provinces and of the United States have found it profitable to resort. The burden is, I know, a heavy one, involving as it has done the contribution, within the last thirty years, of nearly a million dollars by the Protestants of this city in addition to their share of school fees and taxes; but we may in a short time be called on to make further sacrifices to maintain the right of our children to a thorough and advanced professional training. As one who has endeavored to draw out Protestant liberality in favor of education, I would say here that I deeply feel how much in this respect the citizens of Montreal have cheerfully borne, but I believe the English people of this Province, even if left alone and unsupported, are able to sustain their educational systems till the time shall come, as it surely must, when the majority of our fellow-citizens shall, like the great nation from which they have sprung, abandon their present system of education and adopt one more akin to ours. I have no fear as to this result. Our cause is that of God and humanity. No means or effort devoted to it will be without their reward; and however repressed now, it will surely prevail.

I cannot close without referring to another point, namely, the inexpediency of our present system of allowing professional education to be dominated by Provincial Boards instead of having Dominion Boards of Registration for all the Provinces. The Confederation Act very properly places matters of trade in the hands of the Central Goverament. It would be intolerable that a man who had learned his trade in one Province should not be able to practice it in another, or that a man whose place of business was in one Province should not be allowed to sell to customers in the Province adjoining. Yet this is the disability to which some of the highest professions are subjected, and in this way it is attempted to tie up our young men to a Provincial rather than to a Dominion career. Surely when in Britain and France, with their large populations, every practitioner is free

of the whole country, it is folly in our little Dominion to say that a Quebec M.D. cannot practice in Ontario, or an Ontario physician in Quebec. We should follow the mother country in having Dominion Boards of Registration for all the leading professions. Such Boards, like the Medical Council of Great Britain, would not themselves teach or examine, but see that the institutions appointed for that purpose attended faithfully to their duties, and recognized their work accordingly. The Dominion Lands Act already provides for this in the interest of the Western territories, in so far as surveyors are concerned; and there should be similar Dominion legislation for medical and legal practitioners, so that every properly trained young man might, if he thought proper, obtain a Dominion qualification. In so far as medicine is concerned, this, under the new Medical Act of Great Britain, could be made an Imperial qualification, which would enable any one holding it to practice in any part of the Empire or, practically, in any part of the world. This is a reform which should commend itself to our young men, and I feel sure if ably taken up would in the end approve itself to the good sense of all men. At a time when we have agitation for Imperial Federation on the one hand, and for commercial union with the United States on the other, we should be ashamed of not having free trade in professional work between the different Provinces of the Dominion. In this mattor the local and denominational and linguistic jealousies which have prevented us from having elementary education under the general government, have no reasonable place. The professions belong in the matter of training to education, but in the matter of practice to business or trade, and it is the common interest of all creeds and nationalities that they should not be restricted in the choice of their physicians and legal advisers.

I have not in this lecture gone into the example of other countries. It would be easy to show that the position of our Protestant Universities in Quebec is more restricted by legal enactments and threatened by farther restrictions to a greater extent than any similar work in any country whatever claiming to be Christian and civilized; but the reference to facts and details would be tedious and may be reserved for some occasion when

it will be more in place. I may merely say here that the fact that our professional and arts degrees are given a consideration in the other Provinces of the Empire, in the United States, in Great Britain and Ireland, and on the continent of Europe, to some extent makes up to us for the fact that they are refused their due value by the Province in which we live and which we chiefly benefit.

CONCLUSION.

I have spoken frankly on these subjects, perhaps some may think too frankly. My excuses must be: First, that changes of a most serious character are hurrying upon us, which will require forethought and firmness on the part of all who earnestly desire the welfare of Canada; and secondly, the feeling of a man who has devoted much of his life to the attainment of great objects beneficial to his country rather than to himself, and whose remaining time is now all too short to finish his life's work well, even if unchecked by unnecessary and unfair obstruction. I have no fear, however, for the future. I believe that the good work which has been done will live, and that those who endeavor to thwart it might as well set themselves in opposition to the great forces of Nature itself. They might as well endeavor to dam up our great river and to prevent it from pursuing its course to the sea, and from carrying to us on its bosom the wealth of the world, but the stream would overflow and undermine their barriers, however strong, and the temporary restraint can end only in overflowing flood.

To the students who are here to-day, it may appear that the subjects of this lecture belong to those older than themselves; but it is not so. To you I would say, ladies as well as gentlemen, that the burden which we are soon to lay down you must take up; and it is your duty now to nerve and train yourselves in all good habits and learning that you may do credit to your Alma Mater, may sustain that cause for which so many good men and women in Montreal have made great sacrifices, and may advance the highest interests of our country and of the world. To you belong the present honor and future prosperity of the University and of the educational interests which it embodies and represents. Our hundreds of students in Canadian

colleges, as they march out into the battle of life from year to year, if patient, energetic and godly, leading useful and noble lives, are able to guide Canada and to sway the world. May it be so with our students, and with those of all other schools of sound learning.

CHEYNE-STOKES RESPIRATION AND RENAL CALCULUS.

By Sir James Alexander Grant, M.D., F.R.C.P., Lond., &c.,
Consulting Physician, General and General Protestant Hospitals, Ottawa City.

(*Paper read at the Canadian Medical Association, Hamilton, Sept.*, 1887.)

Mrs. G., aged 46 years, stout habit of body, and mother of six living children. Never had gout or rheumatism. No history of consumption in family. Neither neurotic herself nor has a neurotic ancestry or relatives. She had never experienced any difficulty in micturition till about five years ago, when she noticed there were voided a few small concretions, composed of uric acid, and attended by a moderate degree of renal colic, which subsided shortly after the escape of the calculi. For the past few years she has been subject to occasional pains in the lumbar region, but at considerable intervals. Complains at times of frontal headache. No cardiac palpitation or chest trouble, the functions of heart and lungs being normal. In May 1886, was seized suddenly with great difficulty in her breathing, almost approaching suffocation, the respiration, at first deep sighing and frequent at times, afterwards becoming slow and oppressive, with a sense of inability to fully expand the chest. Frequent yawning was also observed; the facial expression was pale, anæmic, and anxious. This condition continued more or less for fully two hours (the most acute stage occupying about half an hour), subjected to the most vigorous measures for relief, and gradually subsided, leaving no unfavorable symptom, except a feeling of depression, and uneasiness fearing a recurrence of the attack. Throughout, the respiratory movements were lessened, doubtless the result of lowered activity in the respiratory centre. Occasionally the shallowness and infrequency of breathing assumed rhythmical variations of intensity, associated with the usually well defined periods, alternating by an increase and decrease of

breathing power, with the abnormal *pause*. Strange to say, she continued conscious throughout and fully aware of the surrounding circumstances, and quite unable to rid herself of the "Cheyne-Stokes grasp," doubtless connected with *some subtle molecular state* of the nerve elements, which under ordinary circumstances guide, direct and control normal respiratory power.

On July 24th, had an exceedingly severe attack in the chest, with precisely the same series of symptoms, lasting fully two hours. Again on the 25th July, precisely the same state of respiration suddenly developed, and with varying degrees of intensity spread over a period of nearly three hours, both attacks being preceded by severe pains in the region of the kidneys. Almost immediately afterwards a copious discharge of urine took place, and a considerable number of small concretions were voided, veritable calculi, pale reddish color, crystalline, and under a magnifying glass their glistening facets were quite apparent. The urine was acid, and rather highly colored, but free from albumen and tube-casts. At this stage the renal pains diminished and the chest symptoms disappeared, so much so that the following day it was quite remarkable to observe the ease, comfort and regularity of pulmonary action. On several occasions when severe pain was experienced in the lumbar region, a sense of chest contraction was felt and associated with a dread of a renewal of former difficulty in the breathing.

For the past six months enjoyed very good health and spirits, and entirely free from any chest complication whatever. Entire absence of pain in the region of the kidneys, voids urine regularly, quite free from calculi, rests comfortably, and at present enjoys excellent health in almost every particular.

During the progress of this case, in the stages of chest difficulty, the action of the heart and pulse were irregular, and proportionally so, to the intensity of interference with normal respiratory action.

Rosenbach (in "Eulenburg's Encyclopædia") adverts to the condition of the heart and pulse, and says that not infrequently no perceptible changes can be observed, and that at times, however, very interesting changes are noticeable. In certain cases the pulse at the beginning of the pause is quicker and of dim-

inished tension. During the ascending stage of the breathing the pulse diminishes in frequency and the tension increases, so that during the deepest inspiration we have the lowest pulse and the highest blood-pressure. There is a case mentioned by "Hesky," where the heart came to a complete stand-still during the pause, and when the stage of full dyspnœa was reached the pulse was normal.

Powerful electric irritation of the phrenic nerves during the pause, to the extent of producing contractions (several in number) of the diaphragm, has no effect on the after ascending and descending course of the breathing. This shows that the phenomenon is not dependent on any want of oxygen in the blood, which is a very important point. In diseases where Cheyne-Stokes phenomenon has been present in slight degree, such has been observed to be greatly increased by the exhibition of narcotics, as opium, chloral and potass. bromid. Nitrite of amyl, on the contrary, has a most beneficial action.

Cheyne-Stokes respiration is liable to occur in those cases where the nutrition of the brain is interfered with; appears in cerebral compression from hemorrhage, tuberculosis and purulent meningitis; in œdema of the brain from anæmia and in cases of tumor of the brain; in various diseases of the heart, muscle insufficiency, fatty heart, insufficiency of the valves, especially of the aorta; in severe diseases of the lungs, such as croupous pneumonia (especially of drunkards) and bronchitis of children; and, lastly, in severe blood losses. The phenomenon may in some cases disappear for weeks and then reappear, as in the renal case just presented. Such, also, has been observed in chronic heart diseases. Nearly always seen when a patient is partially or completely comatose. This condition is not absolutely fatal. Recovery has been noticed in some cases of œdema of the brain from uræmia, as well as in the case just reported.

It is interesting to note some of the views as to the nature of this phenomenon. Filchner favors the view that it is due to changes in the circulation. He considers that contraction of the arterioles of the medulla oblongata is at the bottom of it; that owing to contraction of these vessels less blood goes to the medulla, and that in consequence there is an accumulation of

carbonic acid, which irritates the respiratory centre and causes the rapid breathing. This contraction is succeeded by marked dilatation, and in this manner the medulla is supra-saturated with oxygen, which brings about slower respiration and finally a stop, to be again followed by contraction and its resulting quickened breathing.

Rosenbach contends that it is due to a periodically recurring debility of the respiratory centre, that the cause is to be found in the nerve centres and is entirely independent of the circulation. As instances of similar kind, he refers to a periodically recurring debility of the vaso-motor centre, clinically exemplified in alternate paleness and redness. He also instances certain pulse abnormalities as illustrative of a like affection in another nerve centre, viz., "the vagus centre." The breathing period he compares, in Cheyne-Stokes phenomenon, to the normal respiration, and the pause he compares to the perceptible pause between insplration and expiration. He, in fact, sees in this phenomenon only a very exaggerated degree of the normal process of breathing. As another analogous condition he instances the state of the pupil and the activity of the brain. When the brain is tired or exhausted, sleep is induced, and during sleep the pupils are contracted. In the moment of waking the brain is active and the pupils dilated. He compares the condition of the pupils in sleep to the pause in the Cheyne-Stokes phenomenon. In both instances the condition of the central nervous system is the same, markedly diminished irritability.

Rosenbach's views may be briefly stated as follows: Under the influence of certain anomalies of brain nutrition (in cerebral diseases, or the lungs or circulation) there arises in the brain in general or in some of its centres, *especially the respiratory centre*, localized disturbances which depress the normal activity of the affected part, and through this there arises remissions or complete intermissions in the activity of the centre (pause in breathing). So soon as the centres have a short rest (pause) the activity returns, an increased activity (increased breathing), but this increased duty or work soon again tires the centre, and then we have a repetition of the same abnormal action. These

views of Rosenbach's are now accepted by the best authorities on this subject.

In cases where there are signs of general plethora about the head, Rosenbach highly recommends leeches, and in all such cases it is important that narcotic treatment should be avoided. Stokes, who first observed this phenomenon, says he never witnessed it except in cases of fatty degeneration of the heart and a few weeks before death; Cheyne, however, did not refer the symptom especially to that form of disease. Subsequent observations led them to believe that this phenomenon is not rare, and occurs in a variety of diseases.

This problem rests on a foundation as yet not completely defined. It may be cardiac or renal, or both, as to origin. When the chemistry of the system becomes disturbed through the introduction of abnormal elements of secretion, what an important part arterio-fibrosis plays, or even the introduction of *toxic* elements into the blood, resulting in abnormal actions and reactions on nerve elements, thus interfering with the performance of their normal functions. As time passes on, we may have additional clinical phenomena to guide and direct as to the formation of a positive opinion as to cause and effect in this interesting respiratory phenomenon, but for the present it will be acting cautiously to adopt no hurried conclusions.

SOME RARE FORMS OF VULVAR TUMOR.*

By W. P. Manton, M.D.,
Visiting Physician to the Woman's Hospital and Foundlings Home, Detroit.

The exceeding vascularity of the superficial as well as the deeper parts of the female pelvic outlet renders dilatations and varicosities of the venous radicles of common occurrence in pregnancy. Of this nearly every writer on obstetrics takes cognizance; and many cases are on record where the bursting or accidental puncture of such dilated vessels has led to an almost immediately fatal termination.

A varicose condition of the vulvar veins in the virgin is, however, of such rare occurrence, that after a careful search in the

* Prepared for Ontario Medical Association, 1887.

current literature I am unable to find more than two or three authors who cite cases or in any way refer to such a condition as possibly existing.

It is with no hesitation, therefore, that I bring before this Society the histories of the two following cases. While on a visit to Prof. Credé in Leipsic, in the early part of 1882, I was invited by his assistant, Dr. Richard Lomer, to go with him to see a case to which he had just been called by the attending midwife. The conditions found were a transverse position of the child, a cord prolapsed through a fully dilated os, and a rapid, irregular fœtal heart-beat. In the posterior half of the mother's right labium major, extending inward to the labium minor, was a varicose tumor the size of a Florida orange. During the extraction of the child, its right clavicle and humerus were broken and the varicose tumor ruptured. As soon as the child's head escaped from the vulva, the hemorrhage from the torn varix became alarming, the blood soon saturating the bedding and forming a pool on the floor beneath. Pressure on the wounded parts with the fingers, followed by pledgets of cotton soaked in tr. ferri sesquichlor. and the subcutaneous injection of ergotine, finally controlled the bleeding. The tear was subsequently dressed with iodoform, and was healed completely by the tenth day. I afterwards obtained from the patient the history in regard to the varix.

CASE I.*—When a young girl the patient had had a boil or abscess at the point where the tumor is now situated, which was opened by a physiclan. The varix had existed for some time before marriage; but no direct connection between it and the abscess could be traced save in point of location. In the non-pregnant state the tumor is about one-fourth its present size, but has gradually increased in size from year to year. During menstruation it enlarges and becomes painful. During pregnancy a great increase in volume takes place, although in former times it has never equalled its present dimensions.

CASE II.—Miss A. C., aged 16, was referred to me by Dr.

* This case was also reported in the Boston Medical and Surgical Journal for December 18, 1882.

Henry A. Cleland of Detroit in October, 1885. The patient began to menstruate a little over one year ago. At that time a slight fullness of the left labium major was noticed, which, after the application of a wash, somewhat diminished. During the summer, however, the labial tumor continued to enlarge in spite of the applications, and when I saw her in October it had reached the size of a large walnut. There was no pain, but some itching, connected with the growth, and it was feared that this latter condition might lead to habits of self-abuse. Menstruation had been irregular, and the flow varied greatly in amount. Three weeks before I saw her she had flowed for two weeks, and was, as the result, looking rather pale, although otherwise a healthy, well-nourished girl. The attending physician having already made external applications with no result, I advised removal of the tumor. This I did on the following day, kindly assisted by Dr. Cleland. The wound was dressed with iodoform, and healed rapidly, the sutures being removed on the eighth day. Menstruation set in a week after the operation, and lasted three days. For three periods the patient menstruated every three weeks, and afterwards every 28 to 30 days.

June 17, '86.—I again examined her, and found the parts in good condition, the place of operation being marked by a linear cicatrix. Menstruation is now regular every four weeks and lasts four to five days, the amount normal.

I have no explanation to offer for the occurrence of dilated vulvar veins in the unmarried female. It is possible that in my first case, the former abscess and the surgeon's knife had so weakened the parts that, as the result of hard work and constipation, the veins becoming more and more distended, caused an absorption of tissue, and thus gradually worked to the surface. In the second case, the irritation and congestion kept up by the varicose condition undoubtedly accounted for the profuse and irregular menstruation, but no cause could be found for the dilated vessels. Tilt* offers the suggestion that "varicose veins may be gradually caused by the menstrual nisus," and quotes Gay, who found the condition most frequent during the first two

* Uterine and Ovarian Inflammation, London, 1862, p. 160.

or three years of menstruation, and in connection with either too profuse or too scanty an amount of secretion. He states that at this time the femoral vein is liable to become surcharged, and on account of the unyielding nature and small size of the femoral ring, dilatation of the vessel may readily follow. This might possibly explain the origin of a varicose condition of the internal saphenous vein, but we cannot for a moment imagine that it would affect the corpus cavernosum urethræ bulb of the vagina, especially if the other veins did not participate in the dilated condition. In my first case, as I remember, there was no other varicosity besides the vulvar tumor; and in my second case, I am positive that no such condition existed.

Hildebrant† states that large varices can only be formed during pregnancy. This Winckel‡ denies, and referring to my first case, with one or two others in the literature of the subject, says: I saw in 1869, in the case of an unmarried woman who had never borne, and who complained of great pain in the left side, etc., a varicose tumor of the left labium major the size of a hen's egg. This author states that except during pregnancy, this condition is seldom seen; in his own enormous special practice he had only met with eleven cases of large varix of the vulva in the non-gravid.

As to the treatment of such cases, my own opinion is, that when the tumor gives rise to annoyance by burning pain, itching, etc., or where the increase in size is rapid, surgical interference is necessary, and a complete removal of the growth demanded.

A third case which I desire to bring to your notice is, perhaps, not so uncommon as those already mentioned, but as it is rarely spoken of in the text-books devoted to the diseases of women, it is worth a moment's consideration.

Case III.—A., aged 17 years, was admitted to the House of the Good Shepherd in September, 1886. Very soon after, the nurse having charge of the children noticed that she was affected with a yellowish vaginal discharge, which continued for a month,

† Die Krankheit der Aeussere Weiblichen Genitalien, Stuttgart, 1877, p. 53.
‡ Die Pathologie de Weiblichen Sexual Organe, Leipsic, 1881, p. 37.
Lehrb. der Frauenkrankheiten, Leipsic, 1886, p. 58.

and had a penetrating, offensive odor. At this time, according to the nurse's statement, numerous "small red pimples with white caps" made their appearance, being scattered all over the vulva to the mons veneris. These were treated with a wash and other remedies by the visiting physician, Dr. W. R. Chittick of Detroit, but were made rather worse than benefitted. In two weeks time the papules had run together, and the labia had increased perceptibly in size, first on the right side and then on the left. In January, 1877, at the request of Dr. Chittick, I examined the patient. The vulva presented a most revolting sight, Two large growths, the size of the doubled fist, projected from and involved the labia majora—the whole mass irregular, horny, and bathed in a stinking discharge. Careful measurement showed that the growth on the right side had a length of $3\frac{3}{4}$ inches and a thickness of $1\frac{1}{2}$ inches; on the left side, the length was $3\frac{1}{2}$ inches, thickness $1\frac{1}{2}$ inches. Secondary growths were scattered about the mons, surrounded the anus, and extended on to the inner aspects of the thighs. The skin at the base of the tumors was infiltrated and brawny. I diagnosed condyloma, or verruca acuminata, and suspected syphilitic infection, but a careful catechising of the girl elicited no specific history. At the doctor's request I removed the growths next day, using a clamp, the scissors and the Paquelin, and tying vessels as the tumors were separated. The hemorrhage was quite extensive—a general oozing rather than direct bleeding from the vessels. This was finally controlled by iron-cotton and the T bandage. The patient did nicely,—had but little pain, no rise of temperature, and in a week's time was about again. In two weeks from the first operation, some of the growths about the anus, which had been left, began to increase rapidly in size, and I again operated as before, with the same result. To-day the vulva has a normal appearance, except that the labia majora are a little flattened, and is in a perfectly healthy state, save at one point where a growth of the size of a three-cent piece still exists and requires removal. After the operation, not feeling satisfied with the history of this case, although it appeared that the patient was free from specific disease, I had the parts bathed in black wash and gave small doses of biniodide of mercury,

under which treatment the patient improved both in general health and locally.

Writers on venereal and skin diseases speak of the occurrence of such warty growths in young girls, and agree that they are due to other than specific cause.

QUARTERLY RETROSPECT OF SURGERY.

By Francis J. Shepherd, M.D., C.M., M.R.C.S., Eng.
Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Osteogenic factors in the Development and Repair of Bone.—Dr. William MacEwen of Glasgow has a most valuable and original paper on the above subject in the October and November numbers of the *Annals of Surgery*. The paper is based not on experiments made on animals, but on clinical observations made on actual cases in his own practice, both hospital and private. No one has done more for the advancement of the surgery of the bones than Dr. MacEwen, and he is regarded as an authority in this department of surgery, not only in Great Britain, but on the continents of Europe and America. He is a most accurate observer, as well as an original investigator, and is at the same time a man who has had a vast clinical experience, of which he has made good use, and observations made by him on the development and repair of bone demand the closest attention, because they are sure to throw new light on this very difficult and obscure subject. The article is too long to be reproduced in *extenso*, but I shall endeavor to give a brief synopsis of it.

For a long time the periosteum has been regarded as the chief factor in the reproduction of bone; more recently the medulla has been stated to be capable of bone regeneration, while a very insignificant part has been assigned to the elements contained in the osseous framework. Dr. MacEwen contends, however, that the periosteum is not the potent osteogenic factor which many believe it to be, but that the soft tissues enclosed in the osseous tissue play the chief *rôle* in the development and reproduction of bone. Dr. MacEwen, whilst freely admitting the importance of maintaining the intimate relations of the bone with this vascu-

lar periosteum, holds that too much fear is expressed that death of bone must follow the partial or temporary elevation of the periosteum. When only a part of the bone is denuded of its periosteum, it is still supplied with sufficient blood from the interior to preserve its vitality.

The article consists of a number of propositions, followed by cases which prove their correctness.

Proposition A. *When periosteum has been detached from an extensive area of an adult healthy bone and replaced after a lapse of some hours, union between the bone and periosteum can take place without sloughing or observable augmentation ensuing.*

Proposition B. *The periosteum may be separated from the bone for a period of days by inflammatory products, after the withdrawal of which, reunion between the periosteum and the bone may take place without necrosis ensuing; showing that the temporary separation of the periosteum from the bone, even as a pathological result, is not necessarily attended by death of the bone.*

Proposition C. *The periosteum covering a portion of bone may be completely destroyed or permanently removed, yet the denuded bone may not only retain its vitality, but may throw out cells which will cover it and form a new periosteum.*

Most convincing cases are detailed to prove this latter proposition; the following is most remarkable:—

A boy, aged 3½ years, had the periosteum stripped from the whole tibial diaphysis of one limb, with the exception of a small portion posteriorly which surrounded the nutrient vessel. This was the result of acute suppurative periostitis, the symptoms of which had lasted for nearly seven days previous to admission. The whole length of the tibial diaphysis was exposed by linear incisions; the periosteum was found separated from the bone by pus to such an extent that the finger could be passed round the entire circumference of the shaft. After a thorough washing, the bone looked like white porcelain. Between the periosteum and the bone was placed a series of layers of sublimated gauze, so arranged as to separate the periosteum from the bone around its whole circumference. In forty-eight hours the gauze was removed and the parts washed and inspected. The bone

had all along its shaft the aspect of life. The stuffing was re-applied as before, and removed again on the fifth day. Now the shaft of the bone presented a pinkish blush, and in many places granulations were appearing. The stuffing was reapplied and removed on the sixteenth day, and now the whole shaft was covered with granulations, with the exception of a small portion which looked "like a white island in a red sea." The periosteum was also covered by a layer of granulation tissue, which was quite soft and pliable, and there was no hardness indicative of bone formation detectable in this layer. The stuffing was re-applied. At the end of four weeks granulations hid the entire shaft from view. The granulation tissue covering the bone had a firm cartilaginous feeling, and though of some thickness, was firmly fixed to the shaft. The granulation tissue covering the under surface of periosteum was quite soft. The two layers of granulation tissue were now allowed to come together and soon coalesced, and the wounds rapidly cicatrized.

In this case the preservation of the nutrient vessels tended greatly to the good result, but it proves conclusively that sufficient blood may be supplied from this source to sustain it for weeks, independent of the periosteal supply. The most interesting point in the case is the fact that the periosteum showed no evidence of bone growth, although granulations were freely thrown out.

Proposition D. *A portion of bone which has its continuity severed on all sides, and at the same time has had all its periosteum removed, is capable of living and growing.* Numerous observations are given in support of this proposition.

The next proposition goes still further.

Proposition E. *Not only do detached portions of bone deprived of their periosteum live when reimplanted in their original position, but such portions are capable of living after transplantation. Parts of deeper layers of bone which have no periosteal connection have lived and grown.*

A case is given where two inches of humerus was restored by bone-grafts.* In this case, although the periosteum was preserved, it produced no new bone.

* See Retrospect, September 1881.

Proposition F. *The periosteum does not initiate the reproduction of bone.*

If a healthy bone be removed subperiosteally without previous irritation, very little fresh bone is reproduced. The periosteal tube collapses, and its position is afterwards marked by a layer of fibrous connective tissue, which ultimately becomes absorbed. Again, if a matured bone has been submitted to irritation for a sufficient time to enable new bone to form, and the old bone be then removed subperiosteally, good, sound bone is reproduced. This is because the formative osseous elements have been poured out on the surface of the bone from the Haversian canals during the irritation of the bone and become entangled in the meshes of the periosteum. Thus a layer of new bone is formed on the periphery of the old and on the under surface of the periosteum, which serves as a starting point for the formation of new bone by the proliferation of osseous elements.

Proposition G. *Bone may be regenerated independently of the medulla, which may itself be reproduced.*

Proposition H. *The histo-genetic phenomena support the foregoing observations, showing that periosteum does not generate bone.*

The author then goes on to show how bone is reproduced from the proliferation of osteoblasts, which are found in the interior of the bone, in the immediate tissue, in the Haversian canals, and under certain circumstances in the central cavity. So that the bone may be developed independently of the medulla and periosteum. The periosteum merely acts as a sheath, as a protecting limiting membrane through which the bone receives some of its blood supply, a very important portion being provided by the nutrient vessels. If these conclusions are accepted, Dr. MacEwen says that the surgeons will no longer trust the periosteum to regenerate bone unless it has adherent to it sound osseous plaques, the elements of which have the power of proliferation, as from these elements alone can osseous regeneration proceed. He will not discard injured osseous tissue under the belief that it must necessarily die, merely because divested of periosteum; but he will regard it as a tissue possessed of great independent vitality, which, if placed in suitable media where

blood serum is plentiful and where blood vessels can be quickly thrown out, is capable of living and growing. With that belief, limbs which otherwise would be sacrificed may be saved.

Surgery of the Kidney—Method of Examining the Kidney. —Dr. J. Israël of Berlin (*Deutsche Med. Woch.*, No. 20, '87), at a meeting of a medical society, showed a specimen of renal carcinoma which he had got by excising a diseased kidney. The chief interest of the case arose from the fact that at a very early stage of the disease he had diagnosed the affection by palpation, and then proceeded to extirpate the kidney. His method of examining the patient is as follows: After the patient has been well purged he should be placed on the healthy side on a hard surface, with a thick roll of some hard material under his flank to separate the ribs from the ilium. The end of the table towards which the patient's head points should be raised by placing blocks of wood under the legs. The patient should now be rolled half over on his belly and palpation performed between the anterior axillary line and the anterior edge of the greater dorsal extensors, immediately under the line of connection of the tips of the 11th and 12th ribs; at this point the lower end of the kidney, whether enlarged or normal, presses on inspiration. Israël mentions that the position of the kidney is altered by respiration, and that the kidney can be more easily felt on deep inspiration.

Dr. H. Longstreet Taylor, in a very comprehensive article on *Primary Malignant Degeneration of the Kidney in Infancy* (*American Jour. of the Medical Sciences*, Oct. 1887) describes two cases which came under his own observation, in one of which he removed the tumor through the anterior abdominal wall. The child was only 20 months old, and only survived the operation two hours. He mentions 25 cases in which the tumor was removed by operation, of which ten recovered. In many the operation did not succeed, because it was performed too late, and when the tumor had reached too large a size. Of the ten that recovered, six subsequently died from recurrence. Dr. Taylor is strongly in favor of operation, and says that no one can positively diagnose these tumors as carcinoma, and that at least an exploratory incision should be made. He alludes to the cases of Park and Godlee, where large tumors of the kidney

were successfully removed in very young children. Park's case was doing well a year after operation.

Mr. Jordan Lloyd (*Practitioner*, Sept. 1887) has a suggestive article entitled *Practical Observations on Kidney Stone and on Kidney Mobility.* He rightly remarks that although kidney surgery was one of the latest medico-legal fashions till cerebral surgery usurped its place, there is still much to be learnt, as there is much to be forgotten. The fact that more than twenty-five kidneys have been explored for renal calculus without any stone being found is sufficient proof that the subject of diagnosis is not yet fully worked out. In many of these cases he has no doubt stone was present, but the operator failed to find it, first, because of the inaccurate conception that exists of the precise nature of a renal pelvis, and, second, because of the faulty methods adopted for the examination of the kidney's interior. Mr. Lloyd says the pelvis of the kidney is totally different from what our text-books tell ns; instead of its being a funnel-shaped membranous sac, it really consists of a cluster of branching tubes, so that the procedure of exploring the kidney's interior by means of a finger introduced into the pelvis through an opening in the substance is practicable only in dilated kidneys, and is absolutely impossible when we are examining a viscus in a normal condition. He asserts that he has not yet, however, found a healthy kidney into the primary pelvic tubes of which he could introduce his index finger. Mr. Lloyd's method of exploring a kidney is first to puncture its lower end with a long-bladed tenotome in a direction upwards and inwards, making for the lowest of the calyces; the surgeon can tell by the altered resistance the moment a cavity is struck. Into the opening a child's bladder sound is passed, and the whole interior of the pelvis of the kidney is systematically explored. The sound should have a beak not more than one-third of an inch in length and a stem seven inches. It should be passed at once to the top of the kidney cavity, a distance of nearly four inches, and the exploration should be carried on from above downwards. The author has found this method succeed when needle puncture had failed to locate the stone. In removing a small stone, a scoop and the finger is preferred to forceps.

The diagnosis of stone is often most difficult; occasionally pain may be present in both loins, or it may be referred to distant points, as the back of thigh, hips, &c.

The author attaches great importance to the evidence that may be obtained by immediate percussion over the suspected organ. Percussion should be made just beneath the space between the tips of the last two ribs, and in a direction upwards, forwards, and slightly inwards. The patient should be made to stand upright before you. The blow should be sharp and decisive, and of force sufficient to affect a structure situated several inches below the surface; if a calculus be present at the moment of percussion the patient will complain of a sharp, stabbing pain. To fix a floating kidney, Mr. Lloyd strips off a portion of the kidney capsule over an area of one inch in diameter, and then secures the kidney to the lumbar tissues by carrying two stout catgut sutures through the skin fascia and muscles and then entering the proper capsule and kidney substance close to the edge of the exposed area, making the sutures emerge at a corresponding point on the outside. He uses drainage in these cases, and closes the wound with deep silver sutures.

In the October and November numbers of the *Practitioner* there is an interesting article by Mr. R. J. Godlee entitled *Reflections suggested by a series of cases of Renal Calculus.* Referring to the necessity of greater knowledge of the symptomatology of renal calculus, he says Dr. Knowsley Thornton asserts that all the symptoms of stone in one kidney may be caused by the presence of a stone on that of the opposite side. Mr. Godlee mentions a case which rather lends support to this contention. It was the case of a young man whose right kidney had been twice explored thoroughly for stone without result; seven weeks after the last operation he passed *per vias naturales* a stone the size of a date-stone. The question is, did this stone come from the other kidney or from the ureter. Since then he has been troubled with left renal pains. The author also refers to the frequency with which a person having a stone in the kidney refers the symptoms to the bladder, and mentions a case from which he removed a stone in 1885 from the right kidney of a man where for many years the symptoms had been referred

to the bladder only, and he had been treated for cystitis by the best surgeons; at last, however, he had a severe attack of right renal colic, which recurred, and Mr. Godlee performed nephrolithotomy with success. In this case, a few days after he was going about he had colicky pains of left side and passed several fragments of stone. The question arises, did these stones come from the right kidney. Mr. Godlee says that the post-mortem room of every hospital illustrates the fact that large calculi may cause little or no disturbance. Cases of shrivelled kidney are found where a stone has blocked the ureter; but the kidney must have been affected with hydro-nephrosis before it shrank. Some much disorganized kidneys give rise to but little pain, pus in the urine being the only symptom. He relates the history of a case where the patient suffered from frequent attacks of typhlitis, which ceased altogether after a stone was extracted from the prostatic urethra. Repeated attacks of intestinal colic, especially if accompanied by nausea, should lead the surgeon carefully to investigate the state of the kidneys and urine. Rectal troubles occasionally occur before or during the descent of the stone, as pointed out by Mr. Bruce, and Mr. Godlee has seen well marked herpes zoster in the course of a lumbar nerve during attacks of severe pain. The author asks the question, How long can a person go on with a kidney full of stones? and gives cases to show that subjects of renal calculus are often better left alone. In several cases where he has advised nephrectomy, and the patient refused, they got quite well, sometimes having a fistulous opening remaining. Several cases of abscess of the kidney which were operated on are instanced to show how the mere evacuation of the pus will effectually relieve the patient.

One should not be in too great a hurry in urging a patient to submit to a removal of the kidney, as the organ may still be able to do a certain amount of work. In a great number of cases nephrectomy may be undertaken with comparative freedom from anxiety, the principal dangers being from shock and loss of blood. The amount of shock depends on the amount of adhesions to surrounding parts. If the operation takes more than one hour, the prognosis of the case is not favorable. In cases where the kidney is much enlarged and full of abscesses, Mr. Godlee advises

that a preliminary nephrotomy should be performed, and that nephrectomy should be performed later when the kidney has shrivelled. Mr. Godlee has extirpated the kidney four times, with one death. Several interesting cases of renal calculus are given in detail.

Splenotomy for Leucocythemia.—Dr. Strong (*Western Med. Reporter*, Sept. 15, 1887) reports the removal of a leucocythemic spleen weighing 9 lbs. 9 ounces. The spleen was freely movable, no adhesions to the abdominal wall or intestines existing; the tail of the pancreas was so firmly united to the hilus of the spleen that no attempt was made to separate it; it was ligated with the pedicle of the splenic tumor. The great curve of the stomach was adherent to the spleen. The patient died four hours after operation from hemorrhage of the adherent surfaces which had been separated.—(*Med. News*, Oct. 8th, 1887.)

Splenectomy for Wandering Spleen.—Dr. Myers removed a large spleen weighing 7 lbs. from a woman who had malaria. The spleen had become dislocated and settled on the brim of the pelvis. Three suppurating sinuses led down to it. Tumor was removed by abdominal section and the pedicle ligatured in two places. The wound was drained. Patient was discharged from hospital on the 21st day, and ultimately fully recovered.—(*Jour. of Amer. Med. Ass.*, April 2, 1887; quoted in August *Annals of Surgery.*)

In a paper read by Dr. Podrez of Russia before the Russian physicians assembled in Moscow, January 1887, a brief account was given of all the known splenectomies, numbering 41. He adds a case of his own. A woman aged 36, large spleen from malaria; extirpated by incision along edge of left rectus abdominis muscle. Considerable blood lost at operation from rupture of a vein. Patient did well for three weeks and then died of septic symptoms. Of the 42 cases reported, only 10 were favorable.—(*Chirurg. Vestnik*, March, 1887.)

In the same journal a case is reported by Dr. Donat of extirpation of the spleen in a female, aged 26, suffering from malaria. Patient recovered. Next year patient was delivered of a healthy child.

Dr. Orlovsky also reports a case (*Gazeta Lacarsca*, No. 1,

1887) of removal of spleen from a woman aged 26. There was ascites. Great hemorrhage during operation. Patient died on the 25th day. Death preceded by inflammation of lungs.—(*Annals of Surgery*, Aug. 1887.)

Tumors of the Bladder.—Prof. Guyon of Paris, in a paper read before the French Congress of Surgery (*Revue de Chirurgie*, Nov. 1886), says that in the immense majority of cases, the diagnosis of tumors of the urinary bladder can be established without operation. The cardinal symptom of bladder tumor is hæmaturia; when this occurs without appreciable cause, tumor should be suspected, still more so if it be produced in spite of repose. When simple catheterization determines an abundant and lasting hæmaturia, a tumor may be almost positively diagnosed; the hæmaturia may be determined by the sound in contraction of the bladder. In every case the passage of blood is of importance, for it demonstrates that the bladder is the seat of the affection. It is easy to recognize this from renal hæmaturia, which is often preceded by nephritic colic. . . . Fragments of the tumor may be passed in the urine, and by microscopic examination the nature of the growth may be determined. Having diagnosed the tumor, how shall it be treated? There is but one method of exploration which permits of ocular inspection, viz., supra-pubic section, the only local contra-indication being too great infiltration of the walls; this can be determined by rectal examination. Vesical tumors, malignant, as well as benign, may occupy the bladder without the subject suffering otherwise than from hæmaturia. We have cystitis, retention of urine, etc., in cases of benign as well as malignant tumors. It is not the nature of the tumor, but the trouble caused by the affection, that is of importance. Benign tumors are always removable, malignant never; even when they have hardly attained the size of a pea there is a marked infiltration of the bladder wall, and when their existence is suspected on account of hæmaturia, it is already too late. Operative measures are determined, not by the volume of the tumor, but the appearance of complications, cystitis, retention, etc. The operation must be radical, and for that the interior of the bladder must be open to easy examination. The frequency of accessory tumors alone would be sufficient to elimi-

nate perineal section. The proper operation is hypogastric section. If the tumor lies in the superior segment of the bladder, resection is possible, and should be done, but more often the tumor lies in the neighborhood of the trigone, near the ureters, where resection is impossible. In such cases the surgeon must be content with scraping and cauterization.

Prof. Guyon, at the time of writing this paper, had performed 18 operations upon 15 patients, three being recurrences. In 13 cases the tumors were malignant, and in two only was there a permanent cure. However, in all the cases the conditions which demanded operation were alleviated.—(Condensed from *Annals of Surgery*, May 1887.)

Suction in the Removal of Foreign Bodies from the Bladder.—Mr. Reginald Harrison of Liverpool (*Lancet*, Oct. 29, 1887) has discarded the lithotrite as an extractor of foreign bodies from the bladder, and trusts to a large-eyed evacuating catheter, such as is used for lithotrity, and a rubber wash-bottle connected with it, by means of which the bladder can be emptied and filled with a stream of water of considerable force Foreign bodies introduced into the bladder are, as a rule, of an elongated shape, and it will be found that the end of the body is sucked into the catheter and in this way may be withdrawn. He mentions cases in which he has in this way removed from the bladder foreign bodies, such as pieces of gum elastic catheters, and in one case a pig's bristle which had become coated with phosphates.

Etiology of Tetanus.—Dr. Larger, in a paper read at the Surgical Society of Paris, brought some new facts to support his theory of the contagiousness of tetanus. In January, 1882, a man died from tetanus following a wound of the hand. A few days afterwards, a man suffering from a wound, also of the hand, was placed in the same bed. He developed tetanus and died. At the same time a child of seven lying in the next bed, who had had one of his thighs amputated, also succumbed to tetanus. In Sept. 1886, four and a half years afterwards, a man with a wound in the finger was placed in the bed occupied by the first tetanic patient in 1882. He contracted tetanus, but did not die. The question of catching cold can only be raised in the second case. There was no tetanus in the town in 1882 or 1886, and

the ward during that interval underwent no rigorous disinfection. In none of the cases could the origin of tetanus be traced to any horse. The long interval separating the last from the preceding cases suggests coincidence rather than contagion. M. Larger notes that contagion with a long interval crops up three times among the facts he has gathered. Ten years had elapsed between two cases of tetanus occurring amongst the horses of one stable at Achères; two years between the time the last horse was affected with it and the time a woman contracted it after being injured in the same stable; lastly, eleven years between the cases of two workmen at Barentin who occupied the same room. M. Cagnat of St. Denis met with six cases in six months which occurred in six horses who had been operated on with the same écraseur, none occurring in amongst the animals operated on with other instruments. This écraseur became harmless after being dipped in boiling oil.—(*Revue de Chirurgie*, Jan. 1887; quoted in *Annals of Surgery*, July 1887.)

Pneumotomy.—Dr. G. Foubert (*Archives Général de Medicine*, Oct. 1887) has collected the cases of pneumotomy so far reported. The total number of cases is 80, with 47 cures and 33 deaths. The cures occurred principally in the hydatid cases. There is fair success with gangrenous cavities, bronchiectasis, and abscess. The summary is as follows: (1) Tuberculous cavities in which there was incision made either with or without resection of rib, 7; one recovered completely and one lived for some time. (2) Abscess of lung, 14 cases; 9 cures, 5 deaths. (3) Hydatids of lung and pleura, 34 cases, with 29 cures. (4) Gangrene of lungs, 18 cases; 9 recovered, 2 improved, and 7 died. (5) Bronchiectasis, 12 cases; 4 cured.—(*N. Y. Med. Record*, Oct. 29, 1887.)

Intestinal Surgery.—A remarkable paper on intestinal surgery was read at the General Surgical Section of the International Congress at Washington on Sept. 5th, 1887, by Dr. Senn of Milwaukee. A synopsis of this is given in the *Lancet* of Oct. 7th; the whole paper will, of course, appear in the Transactions. The interesting point in the paper is the healing of perforating gunshot wounds of the intestines by omental grafting, with or without scarification of the serous surfaces. The omental graft-

ing effectually prevents all escape from the intestine into the peritoneal cavity. This he calls (1) the adhesion experiment; (2) Ileo-colostomy in intussusception or intestinal obstruction, by opening the bowel above and below and bringing the artificial openings in apposition with decalcified bone plates; (3) Enterorrhaphy, or the rubber ring method without the omental flap, when excision of the bowel is necessary for gangrene, as in hernia. This mode of dealing with the bowel consists in bringing the healthy ends of the intestinal tube together by means of a circular indiarubber ferrule or tube made easily out of a piece of thin Martin's rubber bandage, about an inch long, inserted into each end of the bowel and the serous surfaces sewn together round this tube on the outside. Dr. Senn says that in dogs it is a matter of little consequence whether three inches or three feet of intestines are removed; resection of more than six feet is uniformly fatal. His results have been obtained chiefly from experiments on dogs, and the specimens were shewn to the Congress.

Gastrotomy for the Digital Exploration of the Œsophagus and the removal of a foreign body.—Till quite recently, when a foreign body was lodged in the œsophagus and could not be reached from the mouth or pushed into the stomach, œsophagotomy was performed in order to remove the body, if it was not too far down. When it was near the cardiac orifice of the stomach, its removal was left to nature. Sometimes the case terminated by the foreign body ulcerating into some of the neighboring blood-vessels and so caused the death of the patient. In the museum at Vienna is a specimen showing a piece of bone lodged in the œsophagus, and which had ulcerated into the aorta at the point where the gullet crosses it in the thorax. Foreign bodies have been vomited up after having been lodged many months in the œsophagus. I saw a case where a boy had accidentally swallowed one of those button-shaped tin whistles with a hole in the centre. It had lodged transversely in the œsophagus, and the boy had lived for nearly two months on liquid food, which trickled through the central hole. It was easily pushed down into the stomach, and a couple of days afterwards was passed per anum.

Should the body be lodged low down in such a way that it cannot be displaced from above, are we to leave the case to nature? This question is answered by two cases which have occurred within the year, where the foreign body was removed by gastrotomy; by this means the foreign body was reached from below. The first case recorded is that of Richardson of Boston, in the *Boston Medical and Surgical Journal*, Dec. 16th, 1886, when a plate containing four false teeth, which had been lodged in the œsophagus, near the cardiac end, for eleven months, was removed by an incision through the abdominal wall and stomach large enough to admit the hand and half the fore-arm. At the end of four and a half months the man was in good health and had gained 54 pounds. The second case was reported quite recently to the New York Surgical Society by Dr. W. T. Bull (*Medical News*, Oct. 22nd, 1887). Having read the account of Dr. Richardson's case and the experiments performed by him on the cadaver, which led him to recommend gastrotomy for bodies impacted at a distance of no less than 13 inches from the teeth after other means have failed, he resolved to employ gastrotomy in a case of impacted peach-stone in a boy 4 years of age, who fell under his care. Dr. Bull failed to dislodge the stone with instruments introduced through the mouth, and discarded œsophagotomy on account of the situation of the foreign body, which would be some six or seven inches from the œsophagotomy wound. Gastrotomy was decided on, and then, whilst considering the best method of performing it, was led to the following conclusions:

(1) That large incisions in the abdominal wall and stomach, together with manipulation of that organ outside the abdominal cavity, and the introduction of the hand into it, ought to be avoided if possible, as they would be very dangerous in so young a subject.

(2) That the exploration could be effected by the finger alone introduced through a small wound, if the anterior wall of the stomach were invaginated so as to fold itself about and behind the finger entering the œsophagus.

(3) That the nearness of the œsophageal opening in the diaphragm to the vertebral column would make that structure an

easy guide to the orifice, and, moreover, an incision in the median line would be nearer to that orifice than one parallel to the border of the ribs. This incision was in general preferable, and the hand or finger manipulating through it would be less encumbered by the overhanging ribs.

(4) That the nature of the body (it being smooth and free from sharp corners) made it probable that it would be safe to push it up from below, or to draw it up, in case it was not easily dislodged downwards into the stomach.

The operation was performed August 29th, a week after the peach stone had become impacted, after first ascertaining that the peach stone was still in position, 13 inches from the teeth. The abdomen was opened in the middle line by an incision three inches long, on a level with the fourth costal cartilage. The stomach was opened midway between the pylorus and cardiac end for 1¼ inches; after passing in two loops of silk, the abdominal wound was also held apart by silk loops, and the finger introduced. The finger stopped up the wound so that nothing escaped, and as it pushed its way in it invaginated the abdominal wall. The foreign body could not be felt till a bougie was pressed gently on it from above. The stone could not be extracted by forceps, so a slender bougie was passed over it and projected from the mouth; then a sponge 1½ inches in diameter was tied to the inner extremity with silk, one end of which was left long. The sponge was pulled through, meeting with slight resistance, but the foreign body, although dislodged, was not brought up. A larger sponge was then tied to the long end of silk and drawn through. This brought the stone into the mouth, where it was easily extracted. The stomach wound was closed by suturing first the gastric mucous membrane and then the peritoneal coat with Lembert's sutures. Dressing of gauze and absorbent cotton. The boy made a rapid recovery. Fed by rectum for four days.

The points of interest in this case, says Dr. Bull, are: (1) The small wound in the stomach; (2) the invagination of the anterior wall of the stomach; (3) the use of loops of thread entrusted to assistants, by traction on which the edges of the wound in the stomach were kept close against the finger, so that

it acted as a plug and prevented the escape of fluid; (4) the moderate manipulation of stomach itself.

Removal of Needle from Heart.—In the report of the last meeting of the German Surgical Congress in the *Centralblatt für Chirurgie* is a paper by Dr. Stetzner on the above subject. A student, after a spree, sought to commit suicide by driving a needle into his heart. Twelve hours after the introduction of the needle the first serious symptoms made their appearance. There was pain in the cardiac region, difficulty of breathing, a loud pericardial murmur at the apex. After 36 hours the symptoms became so serious that an operation for the removal of the foreign body was determined upon. No trace of the needle being found either under the skin or in the intercostal space, a piece of the fifth rib was resected, thus opening up the left pleural cavity; then the pericardium was opened and about a teaspoonful of cloudy pericardial fluid ran out. Now the needle could be felt lying diagonally in the right ventricle. Its head was driven out through the anterior wall of the heart and then fixed in this position with the finger nail. The irregular and violent beating of the heart made it very difficult to catch the foregn body with the forceps, and on attempting it, it again slipped into the ventricle, but this time assuming a vertical instead of a diagonal position, rendering it impossible to make any further attempt at its removal. In addition to this, an iodoform tampon which was used to block up the hole in the pleural cavity was drawn in by a very deep inspiration and could not be found again. The wound was plugged, and although the patient suffered from severe pneumothorax, with copious exudation, he recovered in four weeks. At present he enjoys good health. There is neither heart murmur nor abnormal pulse, nor any trace of pleural exudation. It is a matter of speculation where the needle now is. Dr. Ivan Hardt has collected 22 cases of needle in the heart, of which 19 were found accidentally whilst making post-mortems. In three cases the needles had been driven into the heart accidentally, and such a short distance that they were easily extracted. In the discussion which followed, Dr. Hahn of Berlin showed a knitting-needle which von Bergmann had removed from the heart of a girl aged 11. It had been driven

into her heart by a blow from a slipper. The patient suffered immediately from asphyxia. Under the third left rib a black point could be seen, which was felt to be the end of the needle. There was a systolic murmur at apex. The needle was easily extracted, and a previously very rapid pulse immediately fell to 90 per minute and the heart murmur disappeared.—(*Western Lancet*, Sept. 1887.)

Reviews and Notices of Books.

Treatise on Human Physiology. For the use of Students and Practitioners of Medicine.—By HENRY C. CHAPMAN, M.D., Professor of Institutes of Medicine, etc., in Jefferson Medical College. Philadelphia: Lea Bros. & Co.

Another large work of more than 900 pages has been added to the somewhat long list of excellent text-books on Physiology, so that there is now plenty of room for choice, according to the purpose or predilections of the teacher, practitioner or student. Prof. Chapman states his belief that "there is a felt want by students and practitioners of medicine for a systematic work, representing the existing state of physiology and its methods of investigation, and based upon comparative and pathological anatomy, clinical medicine, physics and chemistry, as well as upon experimental research." A foundation so broad for physiological teaching and reading must commend itself to the most thoughtful, at least, among the class for whom the book is written; and none will complain that the bill of fare presented is meagre, whatever the opinion entertained as to the success of the execution of so great a task as the author set before him.

Doubtless a good many students will experience a somewhat paralyzing effect on examining this somewhat ponderous volume; but whether the enthusiastic teacher can so enamour the student of his work as to remove this feeling remains to be seen. The book is clearly written, tolerably well arranged, and abundantly illustrated by well executed plates, though the greater part are not, of course, new. Anatomy, both coarse and fine, has received attention, but is not, as in some recent works, obtrusively predominant. Copious references to the monographs, etc.,

utilized are given. There is an unusually full explanation of the methods and apparatus employed in physiological research; in fact, completeness is, perhaps, the characteristic of this work, more than any other feature.

A Text-Book on Surgery: General, Operative and Mechanical.—By JOHN A. WYETH, M.D., Professor of Surgery in the New York Polyclinic; Surgeon to the Mount Sinai Hospital, &c. New York: D. Appleton & Co.

Dr. Wyeth has succeeded in compressing into less than eight hundred octavo pages a more or less complete description of almost every surgical disease and condition, including those of the eye and ear. The chapter on the ligature of arteries is undoubtedly the best in the book, the plates being beautifully colored and nearly all original. The subjects of genito-urinary disease and orthopœdic surgery are likewise fully discussed, and show an intimate knowledge thereof on the part of the author. The work throughout is copiously illustrated, and may be relied upon as a fair guide to both the general practitioner and student.

Manual of Operative Surgery.—By JOSEPH D. BRYANT, M.D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopœdic Surgery, Bellevue Hospital Medical College, &c. With about 800 illustrations. New York: D. Appleton & Co.

Dr. Bryant's varied and extended experience as an operating surgeon undoubtedly furnishes a sufficient excuse for the appearance of this manual, although we question the necessity for adding another to the host of similar productions already in the market. However, although the last, this is not by any means the least of the manuals on operative surgery at present before the profession. There is nothing very striking in Dr. Bryant's book, although many of the chapters, markedly those on the surgery of the nervous system and plastic surgery, are very complete, and evince a special knowledge on the part of the author. It is profusely illustrated, many of the cuts being new to us. In the chapter on the ligature of arteries, the anatomical relations of the latter are given in tabular form, evidently for

the accommodation of students of medicine, to whom, especially, we can recommend this manual.

On the Pathology and Treatment of Gonorrhœa and Spermatorrhœa.—By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. Octavo, 484 pages. Illustrated. New York: Wm. Wood & Co.

It is almost incredible that any writer could cover nearly five hundred octavo pages with a description of two such comparatively insignificant affections as gonorrhœa and spermatorrhœa. Such a feat, however, Mr. Milton has accomplished. We are familiar with a former edition devoted entirely to the pathology and treatment of gonorrhœa, but we find here many chapters revised and amplified, and the following subjects now added for the first time, namely, gonorrhæal affections of the heart and pericardium, the peritoneum and pleura, dura mater and sheath of the spinal cord, gonorrhœal pyæmia, pyelitis, etc. We observe nothing novel in connection with the treatment of this disease.

The author devotes nearly two hundred pages to the subject of spermatorrhœa, thus magnifying the importance of this disease, if, indeed, it deserves that title. In connection with the treatment, nearly every nervine tonic in the pharmacopœia is recommended, showing that the author has very little faith in his own methods.

We would suggest that in future editions the headings be made more distinct, and that the symptoms, complications and treatment be described separately, instead of being hopelessly mixed, as at present. As a book of reference, it will answer the purpose admirably.

Health Reports—EIGHTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS; 1886.
MARYLAND STATE BOARD OF HEALTH; REPORT for 1887.

Massachusetts shows a high condition of civilization, if, as a standard, we take into consideration the attention given to and the progress made in the preservation of the public health.

Acting under the best of health laws, there appears to be at work an energetic board of health, as the report of the current year plainly shows. It will be remembered that at the meeting of the American Public Health Association at Toronto last autumn, a series of resolutions were passed concerning the danger to be apprehended from the importation of rags from Europe. Massachusetts uses one-third of all the rags imported into the United States, and "no infectious disease has ever been traced directly to the medium of *imported* rags, except small-pox, and that disease in very few instances." Consequently, in the face of such an authoritative statement as that of the American Public Health Association, the State Board recognized the necessity of thorough investigation of this source of danger, designated by the Association "a prolific source of the spread of infectious disease." A letter from Dr. Sternberg, dated Dec. 22nd, 1886, is quoted, in which that eminent authority on disinfection states, "I am not by any means as positive with reference to the necessity for disinfecting *all* rags as I was two years ago." As the result of his inspection of foreign rag shipping towns, notably Ghent, Brussels, Berlin and Stettin, and of enquiries made with reference to other places, it was found that rags from ports in southern Europe, where cholera was present, are not liable to be shipped from these ports, but he was assured by many of the rag merchants with whom he conversed, that this could never occur on account of the low price of rags as compared with the cost of land transportation, and that, as a matter of fact, rags sent to each shipping port can only be collected within a limited area, the boundaries of which depend upon cheap transportation facilities by canals, rivers, etc. Moreover, these rags were warehoused often for many months, usually loosely piled up in open bins. These warehouses being situated in densely populated cities, it is evident that the first danger is incurred by those who handle the rags. It could not, however, be learnt that these establishments had proved dangerous to the public health, or that the health officials of any of these cities had found it necessary to place any restrictions upon the business.

Dr. Sternberg considers it desirable that all old rags should be disinfected by steam and then thoroughly dried before they

are packed in bales. During the prevalence of cholera in Europe all old rags shipped from parts known to be infected or in direct communication with infected places should be excluded. All rags shipped from healthy ports during the prevalence of cholera in Europe should be disinfected by steam before they are baled for shipment. In the absence of any prevailing epidemic, baled rags need not be treated differently from any other merchandise. Following up these reassuring statements, the State Board of Health instructed Dr. Charles Withington to investigate and report upon the whole subject of the transmission of infectious diseases by rags. A very valuable report was the result of his numerous and far-reaching enquiries, from which it appears :

1. That smallpox has been transmitted through the medium of rags in a certain number of cases, small in proportion to the whole number of persons who handle rags, but absolutely numerous enough to show that unvaccinated workers in rags are exposed to an actual, if not imminent, danger of infection from this source.

2. The source of this infection is more frequently domestic than foreign rags, though the disease has been caused by the latter.

3. Among the rarer means whereby cholera is transmitted are textile fabrics infected with choleraic discharges. There is evidence that clothing from cholera patients, and possibly clothing merely packed in an infected locality, has when, transported to a distance and there unpacked, caused the disease in those who have handled it, thus starting a fresh cholera focus. A distinction exists between clothing and rags, the latter, if transported, are certain to have undergone a carefully discriminative sorting and drying, and to have spent a considerable time in warehouse and on shipboard.

4. The statement that cholera has been transmitted by paper rags rest upon a solitary case, of which the details are not complete, and on the reliability of which some of the highest authorities have cast doubts. If the case be accepted, it is one of infection by domestic rags, carried only fifty miles from their place of collection.

So much, then, for the danger of cholera importation by rags,

and from such evidence we may infer that the danger lies wholly in the advent from the infected districts of Europe of men and women and their personal baggage. Preventive measures should be taken with a view to the closer inspection of passenger vessels, immigrants, and especially the baggage of passengers. The Massachusetts State Board extend their investigations into the food and drugs sold within the limits of the State. Milk examination has been systematically carried on since 1883. At the outset of this undertaking the number of samples found to contain less than the required 13 per cent. of total solids was found to be more than half of the number obtained; frequent examinations increased rapidly the per centage of solids. In 1883 there were, in 13 cities, but 22.5 per cent. of samples above the required standard of 13 per cent., while in 1885, and for the fourteen months ending May 31st, 1886, the samples above the standard were 56.2.

The adulteration of drugs is well understood in Massachusetts, and some of the results of analysis are surprising. All the eight samples of iodide of potassium had excess of the chloride of potassium; 1 out of 13 samples of spiritus etheris nitrosi was of standard quality; of opium, 16 out of 29 samples were below the standard quality, the percentage of morphine varying from 7.94 to 14.10; but 6 out of 18 samples of citrate of iron and quinine contained the proper amount of alkaloid. Only one was the true pharmacopœial preparation, not containing any ammonia.

The limits of this notice do not permit us to dwell upon the important subject of mortality rates and the excellent results of sanitary legislation, as shown by the generally low death rates of the towns of the State, to compare them with the high rates prevailing in this province, and to point out the reason for this distressing state of affairs. We heartily congratulate every citizen of the State on the good work done and good results obtained by their State Board of Health.

Maryland has not made such progress, but, nevertheless, has issued a most creditable health report. The vexed question of the disposal of excreta is under consideration by the Health Board of that State. The report mainly consists of the observations of the Secretary on the drainage systems of Europe,

more especially with reference to the sanitary requirements of Maryland towns, but little is mentioned that cannot be found in the ordinary text-books of hygiene.

The Physician's Visiting List for 1888.—Philadelphia: P. Blakiston, Son & Co.

This is the 37th year of publication of this favorite Visiting List. It contains, as usual, much matter that is all-important in cases of emergency.

The Medical News Visiting List for 1888.—Philadelphia: Lea Brothers & Co.

This List, beautifully finished, contains a well-arranged therapeutic table and also one of poisons and their antidotes, in addition to matters usually found in Visiting Lists.

Society Proceedings.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE PROVINCE OF QUEBEC.

The semi-annual meeting of the College of Physicians and Surgeons of the Province of Quebec was held in Laval University, in the city of Quebec, on the 28th September. In the absence of Dr. W. H. Hingston, the President, who was unavoidably detained, the Hon. Dr. Ross, Vice-President for Quebec, took the chair. There were present: Dr. J. L. Leprohon, Vice-President for Montreal; Dr. E. P. Lachapelle, Treasurer; Dr. L. Larue, Registrar; Dr. A. G. Belleau and Dr. F. W. Campbell, Secretaries; Drs. E. A. de St. George, M.P., C. S. Parke, R. S. Rinfret, M.P.P., A. A. Waters, C. E. Lemieux, sen., L. J. A. Simard, of Quebec; T. A. Rodger, R. A. Kennedy, Robert Craik, R. P. Howard, L. B. Durocher, of Montreal; Malcolm Guay, M.P., St. Romuald; L. T. E. Rousseau, St. Casimir; P. E. Grandbois, M.P., Fraserville; Trancrede Fortier, St. Mary de la Beauce; C. E. Turcotte, St. Hyacinthe; Thos. Christie, Lachute; J. A. Duchesneau, Terrebonne; L. D. Lafontaine, St. Edouard de Napierville; David Marcil, St. Eustache; G. E. Badeaux, Three Rivers; Thos. Larue, Compton; F. J. Austin, Sherbrooke.

After the reading of the minutes of the previous meeting,

Dr. Campbell, Dean of the Medical Faculty of Bishop's College, announced that as Dr. Kennedy had improved in health he would again take his seat on the Board as one of the representatives of Bishop's College.

Reports from the assessors of the Medical Faculties of Laval University in Quebec and Montreal, and of Victoria College, were received and adopted.

Dr. Manseau, of Red Jacket, Michigan, applied for a duplicate license, the original having been burned. The request was granted.

The following gentlemen having passed satisfactory examinations before the Board of Examiners on General Education, were admitted to the study of Medicine, viz.: George Cloutier, John Busby, Sylvia Lebœuf, G. Octave Johnson, Jules Chopin, Albert Aubry, Louis Coderre, Arthur Blouin, Geo. Eugene Guillemette, Adélard Bazin, Aquila Pichette, Alexis Bellemarre, Charles E. L. Auger, Wilfrid Beaudoin, Gédéon Blanchet, P. B. Boisseau, Léger Brousseau, Achille Chandonnet, Achille Dagenais, Osias Daignault, James E. Kearney, P. O. Lauzon, Ovide Normandin, R. Auguste Paradis, J. N. Perreault, Joseph Poupart, François de Salles Prévost, Charles Auguste Prévost, and J. W. Rourke.

The following graduates received the license of the College: Joseph Lespérance, Montreal; Louis Joseph Octave Sirois, Bic; Chas. Onesime Honoré Desilets, Bécancour; Siméon Eugène Grondin, Quebec; Paul F. Brière, Thetford Mines; Nazaire Napoléon Gingras, St. Nicholas; George Tremblay Bélanger, Sherbrooke; Pierre Julien Bissonnette, St. Esprit; James H. Brodie Allan, John W. Stirling, Joseph Arthur Daignault, Sévérin J. Girard, Arthur Delisle, Kenneth Cameron, Montreal; Joseph S. E Ferland, St. Julien, Co. of Montcalm; Vincent H. Morgan, Rivière Beaudette; Antoine A. Duhamel, St. Justin de Maskinonge; Wm. Christie, Lachute; Charles E. Rasconi, Pierreville.

The subject of the proposed new Medical Bill was then brought forward, when

Dr. R. P. Howard stated that the two English Universties of McGill and Bishop's College had discussed it, and were united in opposing certain clauses, principally the one relating to the formation of a Central Examining Board and additions to the preliminary examinations.

The bill was then read clause by clause.

Dr. Howard proposed, and Dr. F. W. Campbell seconded,

that clause 7 of the present Act be maintained, and that it replace clause 24 of the proposed Act, thus doing away with the proposed Central Board of Examiners.

This amendment was rejected on the following division:—

For—Drs. Howard, Craik, Christie, Roger, Kennedy, Austin, Lemieux, Simard, Durocher and Campbell—10.

Against—Drs. Lachapelle, Duchesneau, Lafontaine, Thomas Larue, Grandbois, Paré, Rousseau, Marcil, Tarcotte, Waters, St. George, L. Larue, Guay, Badeau, Fortier, Rinfret and Belleau—17.

Proposed by Dr. Marcil, seconded by Dr. Simard, and carried on a division of 16 to 12, that the date of holding the professional examinational be made the first Wednesday in July. This amendment shows a change in the views of the Board, the date fixed by it at the previous meeting being the first Wednesday in May.

Dr. Howard proposed, seconded by Dr. Christie, that the preliminary examination for admission to medicine be relegated to the Roman Catholic and Protestant Board of Public Instruction. Lost—7 to 19.

The bill was then passed as a whole, and referred to the committee which has already had it in charge, with instructions to have it printed in English and French, and distributed to the members of the Board, also to take the necessary steps to have it brought before the Legislature of the Province at its next session.

A resolution of condolence on the death of Dr. Baddeau, sen., of Three Rivers, one of the oldest members of the profession, was passed, on motion of Dr. Leprohon, seconded by Dr. L. Larue.

After several votes of thanks the meeting adjourned, having been in session seven hours.

TORONTO MEDICAL SOCIETY.

Stated Meeting, Sept. 29th, 1887.

Ovarian Cyst.—Dr. Temple showed a large multilocular cystic tumor. The remarkable feature of the case was the obscurity in the diagnosis. The patient had been examined by various physicians since the discovery of the presence of the tumor seven months ago, and in no case was the growth supposed to be ovarian. The mass of the tumor lay to the rear of

the fundus uteri, so tightly packed into Douglas' cul-de-sac as to prevent fluctuation being perceptible through the vagina. Both ovaries were involved, the right chiefly. Several cysts were attached to the fimbriated extremities of the tubes. No antiseptic was used, but great attention was paid to cleanliness, and boiled water was employed for the instruments and dressings. The case did well.

Etiology of Diphtheria.—DR. ROSS drew the attention of the Society to a point in the etiology of diphtheria. A case might retain its power to infect others much longer than was generally supposed. Infected children should not be allowed to mingle with others till at least five weeks after all traces of the disease have disappeared. A case had lately come under his notice in which a child had communicated this dread disease to other children, whom it met for the first time a month after its apparent recovery.

DR. BRYCE said he had also met with several cases bearing out this point.

Stated Meeting, October 6th, 1887.

Epithelioma.—DR. NEVITT presented a woman who, 29 years ago, had received a severe injury to the head from machinery, a portion of the scalp, the size of the palm, having been torn off from behind the right temple. A sore the size of a silver dollar had always remained. During the last three years this had been growing larger, granulations appeared, and large nodular swellings behind the ear. A nævus over the right temple had lately become involved. The patient had sought relief for the intense pain. No dead bone had been seen or detected by the probe. Topical treatment gave no relief. The opinion of the Society was asked as to the possibility of the lesion having become epitheliomatous.

DR. ATHERTON thought it had the appearance of keloid. The pain was doubtless due to the constant traction on the surrounding skin.

DR. W. H. B. AIKINS inclined to believe it epithelioma.

DR. DAVIDSON expressed the opinion that in either case the treatment of fine parallel incisions, as advised by Dr. Foster of New York, might be effectual.

Steno-Carpine.—DR. R. A. REEVE made some interesting remarks about this new local anæsthetic, a derivative of the thorny locust tree. It possessed advantages over both atropine and cocaine. Mydriasis lasting 48 hours could be produced by

a two per cent. solution. Unlike cocaine, it produced complete paralysis of accommodation, while the effect passed off in one-half the time of that produced by atropine. It possessed the power, moreover, of diminishing tension, an important consideration in the treatment of iritis. Cocaine was more useful for operative purposes. The toxic effects closely resembled those of strychnia. Death resulted in a few minutes.

Fracture of Larynx.—DR. ATHERTON read a paper on a case of probable fracture of the larynx.

In the discussion which followed, DR. MCPHEDRAN stated that laceration in the mucous membrane seldom occurs without concomitant fracture of the larynx. A small opening in the membrane would suffice to account for the great emphysema, if there were obstruction above the seat of the fracture.

DR. NEVITT related a case in which a young lady had twisted her neck in falling. There was sudden severe pain, tenderness down the left side of the larynx, and persistent attempts at swallowing.

Cerebro-Infantile Paralysis.—DR. MCPHEDRAN reported a case of cerebro-infantile paralysis. The history had been that of ordinary infantile paralysis. Hemiplegia was complete on the right side. The power to articulate was absent. Sensation was normal—an unusual thing. There was no hereditary tendency. The paralysis is passing away rapidly. Authorities state that in these cases the prognosis of complete recovery is unfavorable.

Stated Meeting, October 13th, 1887.

DR. J. B. SMITH showed a case of ununited fracture of both bones in the leg of a child of three years. The lesion had occurred when the boy was six weeks old. He had moved about for a time by means of short coaptation splints. There was ligamentous union; the bones being much smaller than those of the sound limb, while there was about three inches of shortening.

There was a short discussion as to treatment, and as to the exact cause of the atrophy in both fragments.

Scarlatino-Diphtheria.—DR. GRAHAM reported a case of diphtheria in which, on the fifth day, the punctiform rash of scarlatina had developed. The history of diphtheritic infection was clear, while the rash was unmistakable. It appeared first upon the chest and covered the entire body. The throat presented the diffuse redness incident to scarlet fever. He believed this

to be a case in which the two diseases were combined. The patient had died.

DRS. CARSON and MCPHEDRAN had seen similar cases.

Case in Practice.—DR. HAMILTON showed a patient, a portion of the side of whose thumb had been split off with an axe, exposing the bone. Although the piece, two inches long, was entirely severed, and had remained so for some minutes, union had been secured by first intention, without sutures.

Plastic Operation.—DR. CARVETH showed a section of the nose with the cartilage attached, and a photograph of the recovered patient. Excellent results had been secured by skin-grafting and a plastic operation.

Case of Epilepsy.—DR. MCPHEDRAN then gave the history of a case of epilepsy and the post-mortem notes: M. C., aged 76, of good family history. As a boy he was apprenticed to a farmer who used him cruelly, striking him, on one occasion, a severe blow on the vertex. As a young man he displayed more than ordinary ability, and was energetic in his business. Forty-one years ago, after great exertion at a fire, he had an epileptic fit, and since then fits have recurred with greater or less frequency, being very frequent of late, always one and often several in one day. He always complained of great abdominal pain, sometimes before, but usually after the fit, lasting often for an hour or so. The convulsion began on some occasions on one side and on some on the other side, while in many both sides were equally convulsed. The direction of his falling was equally varied, both sides were equally convulsed when he fell on his back. For many years back he has been insane after many of the convulsions, often running into the street in his night-shirt, but never threatening to injure any one His mental faculties have grown less keen. His health in other respects was good; he took large quantities of food. The bowels were fairly regular, never very constipated. Two days before his death he had a severe convulsion, after which pain in abdomen became severe. Vomiting set in; became grumous. Abdomen very tender and temperature slightly elevated. Post-mortem examination showed skull somewhat thickened, the hemispheres considerably atrophied and slight increase in cerebro-spinal fluid. The stomach and intestines much dilated, except the lower five feet of the ileum, which was extremely small. Many loops of the small intestines were adherent to each other; two or three were congested, and the adhesions soft, as if of recent occurrence. Along the attachment to the mesentery were many small sacular protuberances of the bowel, as if the mucous coat had been forced through the

muscular. The left renal vein was greatly dilated. There was nothing else worthy of note. No conclusions other than speculative can be drawn from the post-mortem conditions found. The abdominal pain was due, probably, to the adhesive inflammation that occurred from time to time, and, perhaps, bore a causative relation to the epilepsy. The pain may have been due sometimes to colic arising from the impediment offered to the passage of intestinal contents through the contracted portion of the ileum.

BRITISH COLUMBIA MEDICAL COUNCIL.

The Medical Council of British Columbia held its regular semi-annual meeting in New Westminster on Tuesday and Wednesday, the 1st and 2nd of November. There were present: Dr. Milne (Victoria), Registrar; Drs. Powell (Victoria), Tumstall (Kamloops), McGuigan (Vancouver), and Hannington (Victoria).

Resolutions were passed expressing regret at the death of the late President of the Council, Dr. C. N. Trew, and conveying to his family the sympathy of the Medical Council and of the profession throughout the Province.

Dr. W. A. DeWolf Smith of New Westminster was unanimously elected to fill the vacancy on the Council caused by the death of Dr. Trew.

After examination, the following gentlemen were admitted upon the register: Dr. Bodington, Vancouver; Dr. Fagan, New Westminster; and Dr. Sansom, Revelstoke.

The Council then adjourned, to meet in Victoria on the first Tuesday in May, 1888.

CANADA

Medical and Surgical Journal.

MONTREAL, DECEMBER, 1887.

REVERSAL OF THE NORMAL TEMPERATURE CURVE.

The distinguished Italian physiologist, Mosso, recently undertook to test the statement that there is a reversal of the temperature variations in night-workers. This has been asserted for a number of years, at intervals, by isolated observers. Mosso, not being convinced, decided to settle the matter to his own satisfaction by experiments on himself. He remained as quiet and free from occupation as possible during the day, which was also his sleeping period, while during the night hours he engaged in laboratory work. He found there was, indeed, a reversal of temperatures for the morning and evening, but this was only apparent, and not real. The essential and really instructive point clearly brought into view by these experiments is; that the slight normal variations in temperature for the twenty-four hours are now so associated with the tissue changes peculiar to certain periods that any attempt to reverse the activities of the body will result, if we may judge by an individual case, in temperature disturbance sufficiently marked to be fitly denominated febrile. Professor Mosso was obliged to discontinue the experiments after a few days on account of this disturbance.

All this is highly instructive and still more suggestive, but it will be seen that the interesting enquiry as to reversal of temperature curve in *habitual* night-workers is as yet unsettled. It ought not to be in itself a very difficult matter to decide by observations of the right kind on persons who have been engaged in night-work regularly for years; though great care would be required, for Mosso found that the act of getting out of bed and

dressing alone raised the temperature appreciably; and, doubtless, a difference is recognizable between the waking and sleeping temperature independent of every other condition; it would be surprising were it not so. Mosso attributed the temperature variations he noticed in consequence of his change of habits to disturbances in the nervous system. The physiology of heat production and heat loss, especially of the former, is still very obscure, but is attracting considerable attention, and is in a fair way of being worked out before very long.

THE STENOCARPINE FRAUD.

For months past the medical journals on this side of the Atlantic have been vieing with each other who could say the most about the alleged new anæsthetic, stenocarpine. Many of them would now be glad if they had said less, for it turns out that stenocarpine is a fraud: that it is simply a mixture of cocaine and atropine. It is a severe lesson for those members of the medical profession who rush into print whenever they make trial of something new. Our literature teems with crudites begotten in the insane desire of men who, in their childish folly, wish to be the first to speak on a new subject. No doubt some ophthalmologists who rushed to tell us all they knew about "stenocarpine" are sadder, but wiser men this day.

NOTES AND COMMENTS.

The mental symptoms of chronic Bright's disease, characterized by French authors as *folie Brightique*, have scarcely received the attention they deserve at the hands of English-speaking writers. Acute mania may develop suddenly in a person with unsuspected renal mischief. I reported such a case in Seguin's *Archives of Medicine* in 1882. Last winter a man was admitted to the University Hospital who had been violent and disorderly for some days. I saw him the second day after admision, when he showed mental hebetude, but could be roused. There were increased tension, albumin and tube-casts in the urine, and hypertrophy of the heart. The mental symptoms were attributed to the chronic Bright's disease

and I feared the onset of coma. That night, however, he got up, wandered about the ward, jumped out of the window, and was found dead in the morning. In a third case which I saw with Dr. Weir Mitchell, the patient, a middle-aged man, lay in a torpid, dull state, with, at times, brighter intervals, in which he had delusions. The urine did not show any marked changes, and it was not until after the patient's death, when contracted kidneys were found, that the true nature of the case was revealed. A fourth case I saw with Dr. Mullin of Hamilton, in a man with well-developed symptoms of chronic Bright's disease. He had hallucinations and delusions, and was very suspicious, but not maniacal. With treatment he improved very much, and the mental symptoms entirely disappeared. These cases present interesting medico-legal aspects. In Dr. Mullin's patient, the question which we were called upon to decide was whether he was capable of making his will; certainly he was not at the time, but some months after, when I saw him again, his testamentary capacity was undoubted. In the case of the man who jumped out of the University Hospital, the widow is suing the hospital for damages, and it remains to be seen how far the institution can be held responsible for the accident. In a majority of these cases the symptoms are manifestations of uræmia, but it must not be forgotten that acute meningitis sometimes occurs in chronic Bright's disease, and may be characterized by an initial stage of excitement.

That industry, ambition and health, when centred in an individual of fair abilities, command success, was never better illustrated than in the life of the late Samuel D. Gross, whose *Autobiography*, edited by his sons, has recently been issued. If genius is only an infinite capacity for taking pains, it would not be right to deny to Dr. Gross a share of this quality. He won success and fame by hard, honest, unceasing work in a profession for which he seems to have had, from the outset, a special aptitude; and, as he well says, "aptitude is nothing but genius or talent properly applied." As a student, as a young graduate, as a teacher and practitioner at Easton, Cincinnati, Louisville, New York and Philadelphia, throughout a long pro-

fessional career of fifty-four years, industry was his watchword. He may, indeed, be said to have died in harness, as articles from his pen appeared within a few months of his death. And yet he claims to have been constitutionally lazy! He was, perhaps, the most voluminous American medical author. His work on Pathological Anatomy, which passed through three editions, remains the only native one issued in this country, and is still valuable on account of the numerous and accurate references to the older literature. A large part of the second volume is taken up with sketches of some of Dr. Gross's distinguished contemporaries—Drake, Dewes, Pattison, Chapman, J. K. Mitchell, and others—which will have a permanent value in biographical literature. Certainly nothing Dr. Gross has written will outlast his Autobiography. Text-books rarely survive their authors, but the record of such a life is of enduring interest, and will stimulate and encourage many who tread the rough and thorny road to professional eminence.

If, as a profession, we have been to blame for the careless use of morphia, whereby the *habit* has oftentimes been contracted, the judgment and the punishment alike are ours when we are called upon to treat such cases. Even with the resources of special hospitals and retreats the physician may be sorely tried and disappointment often await him after success has seemed certain. I have heard men express doubts whether a confirmed morphia-taker ever was permanently cured; certainly relapses are very common. A few weeks ago a woman came to my clinic at the Infirmary for Nervous Diseases, who had been an inmate of five or six institutions during the past four years, and from at least four of them had been discharged *cured*. Occasionally we meet with instances in which by sheer force of will the victim gains the battle, and I think that such cases are much less liable to relapse. I know of one case in which after three years, and of another, a woman, after many years enslavement, the habit was completely broken without any professional aid.

In the treatment of these cases every possible means must be taken to tide the patient over the critical period of withdrawal

of the drug. Very much depends on the condition of the stomach, and it is well known that patients who can take plenty of nourishment stand the deprivation much better than others. Weir Mitchell has recently practiced the plan of systematic feeding before starting the actual treatment, which is begun as soon as the digestion is in good order. Of substitutes for the morphia, when the diminution in the dose is felt, the hyosin hydrobromate and cannabis indica are probably the most serviceable. Nitro-glycerine has been strongly recommended by Jennings, who, in a recent number of *l'Encephale*, has insisted on the value of massage, electricity, and Granville's *percuteur*. A somewhat modified Weir-Mitchell method is applicable to a large number of morphia habitués. Seclusion and careful watching are in most cases essential, and if communication with the outside world be not entirely cut off, there is very great danger of deception. The devices resorted to are almost incredible, and, as a rule, not the slightest reliance can be placed on the patients' statements.

In the *American Journal of Medical Science* for October, Professor Fraser of Edinburgh urges the use of the nitrites in asthma, on the ground that they relax the spasm of the bronchial muscles. If during an asthmatic seizure the presence of whistling râles is determined, and the patient inhales nitrite of amyl, in a few minutes the relaxation of the bronchial muscles will be followed by disappearance of the râles and greater ease in breathing. This makes a very interesting experiment, which I had an opportunity of verifying on three occasions in a patient in the Philadelphia Hospital. Certainly it is a strong point in favor of the view that the piping râles are due chiefly to spasm of the unstriped fibres of the bronchi. Fraser has found nitro-glycerine and nitrite of sodium very beneficial in asthmatic attacks, and they would probably have a more enduring effect than the nitrite of amyl.

Rarely has a more graceful—and truthful—estimate of our profession been put on record than in the opening sentences of the dedication of Robert Louis Stevenson's recent volumes of

poems, *Underwoods*. "There are men and classes of men that stand above the common herd: the soldier, the sailor and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heraclean cheerfulness and courage. So that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

A chronic invalid, Mr. Stevenson sets forth in this way his gratitude to the many doctors in many lands who have helped him in a long struggle against an hereditary foe. In poem xxiv, *Not yet my soul these friendly fields desert*, he has beautifully expressed the spirit in which he has fought and worked:

For thy life,
Up, spirit, and defend that fort of clay,
Thy body, now beleaguered; whether soon
Or late she fall; whether to-day thy friends
Bewail thee dead, or, after years, a man
Grown old in honor and the friend of peace.
Contend, my soul, for moments and for hours;
Each is with service pregnant; each reclaimed
Is as a kingdom conquered, where to reign.

WILLIAM OSLER.

Medical Items.

—Advices from London bring intelligence that Messrs. Fairchild Bros. & Foster of New York have been awarded the gold medal at the American Exhibition held in the former city, for their Digestive Ferments, Extractum Pancreatis, Peptonizing Powders, and Pepsine in Scales.

—*Medical Science* is the name of a new monthly journal published in Toronto, the first number of which has made its appearance. It has a learned quartet for editors. This makes the eighth medical journal published in Canada. If the latest of these can supply the practitioners of this country with original pabulum of a higher order than they have been getting in the past, then there is reason for the country to be congratulated.

ERRATA.—On page 242 (November number), fifth line of the third paragraph, for "periosteum," read "peritoneum."

CANADA

MEDICAL & SURGICAL JOURNAL

JANUARY, 1888.

Original Communications.

THE INFLUENCE OF CERTAIN OCULAR DEFECTS IN CAUSING HEADACHE.

By F. Buller, M.D.,
Professor of Ophthalmology, McGill University.

(*Read before the Canadian Medical Association, at Hamilton, September*, 1887.)

McGill Univ. 3-12-12 sep.

The influence of abnormal conditions in the organs of vision in causing headache has long been recognized, but it cannot even now be said that the nature of that influence in all its bearings is fully understood. The term *eye strain* is, indeed, applicable to a very complex condition, in which anatomical, mechanical, muscular and nervous influences variously combined each play their part. Whenever there is a deviation from the normal state in any one or more of these particulars, visual disturbance of some sort is likely to result, and with it more or less disturbance of function in other parts or organs.

In the eyes themselves, such disturbance of function most frequently presents itself to the ophthalmologist in some form of so-called asthenopia. Many cases of this kind are also accompanied with reflex disturbances in parts more or less remote from the eyes, the most important of which, in point of frequency at least, undoubtedly is headache. Headache from this source may attain any degree of severity, from mere discomfort to the most unbearable agony. It may be constant or intermittent, but in any case it is likely, in the long run, to resist every remedial measure until the visual difficulty, whatever it may be, is discovered and suitably corrected. Some experienced ophthalmolo-

gists go so far as to contend that nearly every case of migraine or sick headache is associated with some defect in the visual apparatus ; for my own part, whilst admitting that such an association is of frequent occurrence, I am inclined to think there is a large proportion of these cases not to be accounted for in this way. Others, again, claim that all sorts of nervous disorders, including chorea, epilepsy and insanity, are often due to the same cause ; on this point I am not prepared to express an opinion.

There is, however, among ophthalmologists, and through their labors also, I think, in the general profession, a settled conviction as to the importance of ocular defects in causing headache. On this subject there is, however, but little information to be gained from the ordinary text-books of medicine, though current litera ture contains much that is well worth careful study.

Every one has heard of remarkable cures of headache by the correction of certain errors of refraction, and there is, perhaps, a widespread notion that ocular defects causing headache only require the adaptation of suitable glasses to remove the trouble. This is quite true of certain cases, the correction of the refractive error may accomplish all that is to be desired. Sufferers from headache during half a lifetime have time and again been cured in a few days by wearing the glasses that have corrected a simple hyperopia. I once saw a student who had reached the third year of his university course, a martyr to headache all the time, and subject to attacks of vomiting if he studied longer than two hours consecutively, so disheartened that he had decided to abandon his university career when he found himself suddenly cured of all his ailments by wearing convex cylindrical lenses of 36 inches focus. Convex sphericals of the same focal distance had been used for some time previously without benefit. Here there was only a simple error of refraction, slight in degree, but giving rise to symptoms that might readily have been mistaken for some serious organic disease. Such a case can, I take it, only be explained by assuming an instability of nerve force which a trivial disturbing element was capable of putting completely out of balance. On the other hand, it is a matter of daily experience to meet with persons whose visual apparatus presents

infinitely greater deviations from the normal without setting up any noticeable mischief.

As a rule, those who suffer considerably from slight ocular defects are neurotic subjects, in whom minor ailments are apt to make more show than serious ones do with those whom nature has endowed with vigorous nerve power. But there are visual abnormalities which even the most vigorous cannot bear up against without suffering, more particularly when any unusual demands are made on the organs of vision, or when from any cause the general health becomes deteriorated. In such persons the true nature of the troubles they experience is exceedingly apt to be overlooked unless the eye symptoms happen to predominate, which by no means always occurs.

I have said the elements which may unite to produce eye strain, though simple in themselves, constitute a complex condition when so combined. Let us consider the most important ones separately, always bearing in mind that several may be combined in the same individual.

First of all come the errors of refraction—myopia, hyperopia and astigmatism. Next we have defective muscular action both of the extrinsic and intrinsic muscles of one or both eyes, in which any one or more of these may be implicated. Lastly, there may be faults in the perceptive organs—that is, of the retinæ and their nerve centres. This third division we may leave out of the question, as a consideration of this part of the subject would take us beyond the limits of a short discourse.

It is the physiological demand for binocular vision and for distinct vision that under certain circumstances induces eye strain and consequent headache. We must therefore direct our attention chiefly to the muscular apparatus, any portion of which may be defective in power, or, what amounts to the same thing, the demands made upon it may for various reasons be greater than it can bear.

In hyperopia and in astigmatism the chief demand is for distinct vision, hence the ciliary muscle is liable to be overtaxed, and there will be accommodative asthenopia. In myopia, the muscles of convergence are placed at a disadvantage, and we are more likely to meet with so-called muscular asthenopia.

Both in myopia and hyperopia, as shown by Donders, the acts of accommodation and of convergence, which are essential to binocular vision, become disassociated. It is only in the emmetropic eye that they are arranged to act equally at all distances. This want of harmony between the intrinsic and extrinsic muscles is in itself a fruitful cause of eye strain. As a manifestation of this disassociation, we often meet with the obvious muscular defect called strabismus, usually convergent in hyperopia, and divergent in myopia. In emmetropia, the range of distinct vision, consequently both of accommodation and of convergence, is from infinity up to some near point, say a few inches distance, but in the above mentioned errors of refraction, though there is the equivalent range of distinct vision, it is displaced more or less, backwards from the normal near point in myopia, and forwards in hyperopia. Correction of these errors of refraction acts beneficially in each case by restoring the range of vision to something like its normal position, and, consequently, in re-establishing the association between convergence and accommodation. Correcting glasses also act, in hyperopia, as a direct relief to the ciliary muscle by diminishing the necessity for excessive accommodative efforts, whilst in myopia suitable glasses relieve the necessity for extreme convergence. In astigmatism, the constant effort to obtain distinct vision is particularly irksome, probably because it induces an irregular action of the ciliary muscle, a structure which nature has designed to act uniformly in all its extent, and which, on account of its delicate functions, is endowed with numerous and extraordinarily sensitive nerves. In astigmatism, then, we have to deal with accommodative asthenopia. But when the extrinsic muscles are at fault, the difficulties caused by otherwise uncomplicated errors of refraction cannot always be remedied by glasses that correct the refractive error. There can be no doubt that defects in the extrinsic muscles are met with much more frequently in connection with errors of refraction than in the normal eye, and it is sometimes found that a suitable correction of the refractive error will in time restore muscular equilibrium where this has been defective. Correcting glasses can often be supplemented in their action by combination with prisms in such a position as to relieve the strain

of overworked muscles. Combinations of this sort may have the happiest effect in allaying the visual disabilities of those who suffer from both refractive and muscular errors. There are, however, cases in which a defective action on the part of the extrinsic muscles is the sole cause of the visual difficulty, and I am convinced that a large proportion of those cases in which a careful correction of the refractive error affords little or no relief to the symptoms of eye-strain can be explained by the presence of some defect in the action of the extrinsic muscles, either inherent or the result of long habit—a defect which must be corrected before relief can be obtained by wearing glasses. The following case illustrates this point:—

Mrs. S., aged 37, consulted me in the year 1883 on account of short sight, weak vision, and almost constant headache, troubles which dated back to girlhood, and from which she had never been able to find relief. She was wearing concave spherical glasses for distance only, of 16 inches focus. Under atropine I found M -1/14, with myopic astigmatism about 1/60, vision $=\frac{20}{20}$ each, and apparently some weakness of the internal recti, but, as I thought, not enough to call for special attention (at that time I was not in the habit of testing the muscular functions in doubtful cases as carefully as I do now), I ordered —18 to be worn constantly if possible. Three and a half years later—that is, last April—she came to me again complaining that the eyes and head were, if possible, worse than ever. I then found the refraction, corrected under atropine: R., –4.50 D ◯–0.50; D ax. 70°; vision $\frac{20}{30}$. L., –4.50 D ◯–0.75; D ax. 100°; vision $\frac{20}{20}$. With this correction there was a latent divergence at 6 metres distance, =pr. 6°, abduction =15°, adduction the same. Abduction increased by exercise to 18° and adduction to 25°. Though varying slightly from day to day, repeated examinations substantially confirmed these conditions. There was thus an evident loss of muscular balance in favor of the external recti. This I corrected by a partial tenotomy of the left external rectus carefully regulated to exactly correct the latent divergence. She was directed to continue using the same glasses as before. A month later she came to report the result. There was then perfect muscular balance at 6 metres, abduction 12, adduction

30. From the day of the operation the headache had entirely disappeared.

Insufficiency of the external recti with latent convergence has lately also become a well recognized condition as a cause of asthenopia and its attendant discomforts. This condition is perhaps of less frequent occurrence than the same defect in the internal straight muscles. When discovered, however, it may, if necessary, be remedied by taking from the internal recti their overplus of power, or the relative strength of the externi may be augmented by a carefully regulated advancement of the tendon.

I now come to what I believe will prove to be one of the most important muscular anomalies, for the detection of which and a precise knowledge of the proper measures for its relief we are mainly, if not entirely, indebted to Dr. Geo. T. Stevens of New York. I allude to defective action of the superior and inferior recti. I have recently found this defect to be of more frequent occurrence than I should have anticipated, and it is of extreme importance, not only on account of the visual and other (reflex) disturbances an error of this kind is capable of inducing, but also in its influence on the action of the other ocular muscles. I now consider no test of the muscular functions to be complete unless the condition of the superior and inferior recti is carefully taken into account, because a latent vertical deviation so disturbs the balance of the other muscles that the most misleading results are likely to be obtained if a vertical deviation has been overlooked. The terms suggested by Dr. Stevens to express the various abnormal conditions of the extrinsic ocular muscles seem to me entirely satisfactory, and I now always employ them in my records. Vertical deviation or *hyperphoria* may be combined with any error of refraction, and with lateral deviation in either direction, such as the following case, which is one of compound hyperopic astigmatism, with hyperphoria and exophoria :—

Mrs. F., aged 36, a thin, worn-looking woman, has had pain in the eyes and headache for many years, always aggravated by near work. In Dec. 1883, I found under atropine—

R., + 32 s. ⊖ —80 c., ax. 135°, $\frac{20}{20}$.

L., + 40 s. ⊖ +14 c., ax. 130°, $\frac{0}{40}$.

and ordered these for all near work. They afforded some relief,

but the headaches remained as before. She came again in April, 1887, and I found the refraction unchanged. After repeated examinations I found 1° of right hyperphoria and 2° of exophoria, abduction =9°, adduction =16°. After partial tenotomy of left lower rectus, the hyperphoria was corrected, but the lateral deviation remained unaltered. This was also corrected by partial tenotomy of right external rectus. On June 14th there was exophoria 1°, abduction 6°, adduction 23°, and freedom from headache. On June 25th there was exophoria =2° and some headache after prolonged use of the eyes. The remaining exophoria will probably require a repetition of the tenotomy. There is evidently still a considerable degree of latent excess of strength in the externi.

In another case, a gentleman 45 years of age, there was: R. H. =0.75 D $\frac{20}{20}$. L. H.=4 D. ⌒ +2 D. c., ax. 110, $\frac{20}{30}$+. With frequent headache and the head feeling so badly he was in great anxiety, fearing the head symptoms indicated organic disease of the brain. Here the correction of 1½° right hyperphoria by partial division of the left inferior rectus and the correction of the error of refraction by glasses relieved the head completely.

The same error of muscular balance will undoubtedly cause distressing symptoms where there is no error of refraction or one so slight that it will not account for the symptoms. I have recently seen a marked instance of this kind, and will here give another in which the error of refraction was trivial, but the patient a great sufferer from headache and weak vision; he also had a worn, distressed look which one often meets with in cases of eye strain:

C. A., aged 29, has had weak vision since his school-days, and suffered almost constantly from headache. In 1880 I treated him for an anterior choroditis of the left eye, from which he made a perfect recovery, but I did not succeed in relieving his asthenopia. Last June I again had an opportunity to examine the eyes, and found, under atropine: R. +0.75 D s. $\frac{20}{20}$. L. +0.75 D s. ⌒ 0.75 D c., 90° $\frac{20}{20}$. There was slight insufficiency of the internal recti, with exophoria 1° and left hyperphoria 1°. A correction of the latter gave immediate freedom from headache, and was soon followed by a marked improvement in his general health.

There can be no doubt that visual imperfections which call for a constant and abnormal expenditure of nerve force, such as must necessarily be the case where there is a latent deviation of the optic axis in any direction, is not only a frequent cause of morbid conditions in the eyes themselves, such as conjunctivitis, blepharitis and keratitis, perhaps, too, of deeper seated inflammatory affections of these organs, but also of headache, migrain, neuralgia and other nervous disorders. That they cause deterioration in the general health almost goes without saying.

Every subject of such visual defects as these is handicapped or over-weighted to just such an extent that he is liable to break down before the finish. In the cases I have quoted I have not, for obvious reasons, gone fully into details, but enough has been said to show their bearing on a subject which seems to me to merit more attention than hitherto has been bestowed upon it even by those who have to do exclusively with ophthalmic surgery; and, I am convinced, the facts I have endeavored to bring forward may be used as a key to unlock the hidden secret of many obscure and troublesome cases that would otherwise stand as an opprobrium to medical art, bidding defiance to all its resources.

THE DANGERS AND ACCIDENTS OF LOCAL TREATMENT IN PUERPERAL CASES.

By James C. Cameron, M.D.,
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Dr. Matthews Duncan has somewhere remarked that the subject of antiseptics in midwifery is by far the most important obstetrical question of the day, being of even greater moment to the public than the prevention of epidemics, for while epidemics come only at intervals, puerperal septicæmia is a constant menace to the lives of a most valuable portion of the community. Antiseptics may justly be said to have revolutionized the practice of midwifery, so that results impossible anywhere a few years ago are now everywhere obtainable. Antiseptic midwifery in some form or other is practised almost universally; but, unfortunately, general use is apt to run speedily into abuse, and the antiseptic system is no exception to the rule. Uterine and

vaginal douches, when properly administered in suitable cases and at suitable times, are invaluable, but otherwise they may prove dangerous. To point out some of the dangers and show how they may be avoided is the object of this paper.

The opinion seems to be prevalent among the profession that, while the intrauterine douche is *generally* safe, the vaginal douche is *perfectly* so. No particular skill is considered necessary. Impressed with its harmlessness, some recommend the antiseptic vaginal douche as a prophylactic against infection during the puerperal state, and advise its use in all cases. Not unfrequently we find the operation entrusted to the nurse or some incompetent person, without direction or supervision, as if douching was a trivial matter out of the province of the physician or perhaps beneath his dignity. With such doctrines and practice I cannot agree, for in my opinion prophylactic douching during the puerperal state is not only unnecessary, but frequently the cause of serious harm. Though believing in thorough antisepsis during labor and the puerperal period, and admitting the value of vaginal and uterine douching in certain conditions, I am nevertheless convinced that the douche is not perfectly harmless, and that it should be used only when clearly indicated, and then with eaution.

Liability to absorption through tears, fissures, abrasions or other traumatisms constitutes the chief danger of the vaginal douche. The contraction of the constrictor muscles narrows the orifice of the vagina and favors sacculation of its canal; consequently part of the infection is apt to be retained, perhaps for a considerable time. Indeed absorption is more liable to take place through the vagina than through the uterus, because the latter usually contracts firmly and empties its cavity, especially if the injection be hot.

For various reasons the intrauterine douche is more dangerous than the vaginal, especially if the current be too strong or the outflow insufficient. Fluid may be forced through the Fallopian tubes into the abdominal cavity, causing acute peritonitis or even death, as in Vöht's case; or a thrombus may be dislodged from the placental site and hemorrhage take place; or air may find its way directly through the uterine sinuses into the veins; or

some of the injection fluid may enter the veins. In Stadfeldt's case, symptoms of poisoning appeared while a large sublimate douche (1 to 5000) was being administered, proving that the mercuric solution entered the circulation directly. The uterine sinuses, firmly attached to the muscular wall of the uterus, are closed during muscular contraction, but gape open during relaxation; therefore, in relaxed conditions of the uterus, fluid or air may readily penetrate into the veins. I have seen sudden death produced in this way during an intrauterine injection of perchloride of iron for post-partum hemorrhage.

The fluids most commonly used for injection are plain water or solutions of permanganate of potash, carbolic acid or corrosive sublimate. Plain hot water is the safest, and is quite sufficient when debris is to be washed away and a simple mechanical effect is the only one desired. But in septic cases where germicide action is also required, corrosive sublimate is by far the most effective, but at the same time it is the most dangerous. Death has occurred in sixty hours from the effects of an intrauterine sublimate douche (1×2000). Patients suffering from anæmia or kidney troubles are very susceptible to the action of mercury; so, too, are those who have recently been under mercurial treatment, or in whom there is marked atony of the uterus or extensive traumatisms of the genital tract. It may be taken as a general rule that sublimate injections are contra-indicated in all such cases, or should at least be given with the greatest caution.

Frequently an intrauterine douche is followed by a chill and rapid rise of temperature (104° or over), accompanied sometimes by colic and abdominal tenderness. As a rule, these symptoms are of nervous origin, though exceptionally they may be due to absorption. In men, the passage of a catheter or sound is occasionally followed by a sharp rigor and high fever; surgeons call this urethral fever, and attribute it to nervous influences. Similar symptoms may be caused by the passage of a uterine sound or by artificial dilatation of the cervix, without any evidence of inflammatory mischief; nervous influences are undoubtedly the cause. So in like manner, the passage of a foreign body (irrigation-nozzle) into the uterus, and the distension of the uterine cavity with fluid, especially if the outflow be

insufficient, may produce similar nervous symptoms sometimes of an alarming nature.

What precautions are to be taken for the avoidance of these dangers and accidents?

1. The patient should always be placed across the bed in the *dorsal* position, with hips well raised and thighs everted. The operator has then better control over the direction and force of the injection as well as over the outflow. In intrauterine douching, the anterior lip can be more easily seized and the uterine cavity straightened, if the patient is lying in the dorsal position.

2. The vaginal or uterine nozzle should be *inflexible* (glass or hard-rubber), without a central orifice in the bulb (to avoid injecting fluid through the Fallopian tubes or dislodging thrombi from the placental site). The openings in the bulb should be directed slightly backwards, so that the injection stream may flow away from the fundus, not towards it.

3. A sufficient outflow should be secured. The vaginal orifice should be kept open. Before an intrauterine douche is given, the anterior lip should be seized with a vulsellum or tenaculum and drawn gently downwards till the uterine cavity is straightened. The nozzle can then be more easily introduced, and a good outflow is secured. After the operation it should always be ascertained that there is no pouching of the vagina or retention of fluid.

4. The quantity of fluid injected should be small; from one to two litres is quite sufficient. Large and long-continued injections are not more effectual, while they greatly increase the risks.

5. Antiseptic injections should be weak, unless powerful germicide action is required in acute septic cases. For an ordinary vaginal douche a sublimate solution of 1×7000 or 1×5000 is quite strong enough. The strong solutions (1×2000 or 1×1000, or even 1×500) should be used only in urgent septic cases, and then with the greatest caution. After a sublimate injection, a pint or two of plain hot water should be run through to wash away any retained sublimate, thus lessening the risks of absorption.

6. The injection should always be used hot (108°–112°F.)

Hot water is a powerful stimulant, causing the uterus to contract firmly, thus closing up the sinuses and tubes, and expelling the injection fluid from its cavity.

7. To prevent nervous chill and rise of temperature, a glass of brandy or some diffusible stimulant should be given fifteen minutes before operating. The stimulant acts primarily by bracing up the vascular system, and secondarily by increasing the resisting power of the nervous system. If this precaution be taken, and the injection be given rapidly and without undue exposure or chilling of the surface, rigors and fever will rarely follow. In very nervous, excitable patients, or where there is likely to be pain, ether may be advisable.

8. During the more severe methods of intrauterine treatment, such as curetting or brushing (écouvillonage of Doléris), the placental site is apt to be disturbed; some of the little plugs may be scraped or brushed away from the mouths of vessels, permitting the entrance of air, fluid or septic matter. Curetting or brushing should be followed at once by a small douche of very hot water given very slowly and carefully; a bacillus of iodoform should then be passed into the uterine cavity and the vagina loosely packed with a strip of iodoform gauze.

THE TREATMENT OF ULCERS BY THE TRANSPLANTATION OF LARGE PIECES OF SKIN, AFTER THIERSCH'S METHOD.

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(Read before the Medico-Chirurgical Society of Montreal.)

While skin-grafting by Reverdin's method, which consists in the placing of small pieces of skin at intervals on a base of healthy granulations, is known to, and practiced by surgeons everywhere, the treatment of ulcers by the removal of the diseased tissues and the transplantation of large pieces of skin—a process which is known in Germany as Thiersch's method of skin transplantation—is, I believe, but little known to English and American surgeons, and but rarely practised by them. The essential principles of this method are:

(1) That the part to be treated be prepared by the removal

of all unhealthy granulations and diseased tissues generally, and be rendered thoroughly aseptic.

(2) That the skin to be transferred to the bed thus prepared be thoroughly cleansed, rendered aseptic, and carefully removed and applied with its under surface closely in contact with the base of the wound in such a manner as to cover it completely.

(3) That the wound be kept aseptic throughout, and disturbed as little as possible.

In preparing the ulcer it will often be necessary to dissect away the skin on which it is situated throughout its whole thickness. Sometimes, even, especially on the shin—one of the commonest sites for old ulcers—it will be necessary to remove the periosteum and perhaps chisel away the outer surface of the bone over a considerable area. This, of course, involves a good deal of bleeding, whether an Esmarch's bandage has been used or not; and it may be necessary to apply a compress firmly over the wound for an hour or two before transplanting the skin. In many cases, however, it will be sufficient to scrape away the granulation bed with a Volkmann's spoon, in which case there is usually no delay from hemorrhage. The skin to be transplanted may be taken from any convenient part of the patient's body, or from another person altogether. It is removed in strips with a sharp knife, or, preferably, a broad-bladed razor. The skin is to be taken to a depth sufficient to secure as nearly as possible the whole thickness of the epidermic layer, the rete Malphigii being the most desirable part. It does not matter if the papillary layer of the true skin is partially removed, but the corium should not be included. I do not intend to discuss this subject from a physiological or histological standpoint, but I may be permitted to say *en passant* that Prof. Thiersch of Leipzig, after whom this operation is named, demonstrated, in 1875, on a leg which was about to be amputated, that union occurred between the skin and subjoined tissues without any intervening connecting layer, and that blood-vessels, or at least blood-spaces, which soon developed into blood-vessels, extended from the wound into the skin in as short a space of time as eighteen hours. These facts were demonstrated by injecting the leg after amputation. It was in the same year also that he (Prof. Thiersch) recom-

mended the cutting away of the granulations before transplanting the skin. Surgical methods have, however, undergone so many changes since 1875 that I shall describe the details of the operation as I saw it generally performed in Germany during the past summer, notably in Schede's clinic in Hamburg, and as I have performed it myself in the cases which I am about to bring before you.

Case I.—Wm. J., a healthy-looking man, but somewhat pale, an old soldier and ex-lighthouse keeper by occupation, had been exactly two months in hospital under regular treatment for an ulcer extending across the lower third of the right leg. This ulcer had originated thirteen years prior to his admission to hospital, from the stab of a game-cock's spur. It had gradually extended, and never healed in the least degree in any part, and at the time of operation covered an area of about four by five inches, its prominent features being hard, raised edges and indolent, painless granulations. During the thirteen years of its existence he had been treated at different times by a great many surgeons, but without any appreciable benefit. The operation was performed on the 7th of August last, in the following manner: The patient was anæsthetized, the leg thoroughly washed with soap and water, and irrigated with a solution of corrosive sublimate of the strength of one part in two thousand. Thinking that probably from its long standing the periosteum underneath the ulcer would be diseased, I dissected out the whole space covered by the sore, cutting through the healthy skin just beyond the margin of the granulation surface. Finding the tissues quite healthy, however, beneath this flap of skin, I merely twisted a few small vessels and applied a temporary gauze-dressing very firmly and proceeded to shave, wash and irrigate the anterior surface of the thigh. Then removing the temporary dressing, I shaved off strips of skin with a razor and carefully covered the wound with them. (A strip of skin can easily be removed with a good razor from three-quarters of an inch to an inch and a half in width and as long as you want it.) These strips of skin were placed transversely across the wound, and across them again were placed strips of silk-isinglass

plaster about half an inch wide and at intervals of about half an inch apart, the plaster being wetted in the sublimate solution. The whole was then dressed with a sublimated gauze dressing. The dressing was changed on the fifth and again on the thirteenth day, and finally removed on the thirtieth day after operation, when the wound was perfectly healed. A gauze pad was then applied over the lower third of the leg to protect the newly-formed skin, and the patient was kept in hospital for about two weeks longer as a precautionary measure and then discharged. I may say here that it is not necessary to wait until the wound is absolutely dry and bleeding completely arrested before transplanting the skin, but as soon as it has been arrested to such a degree that the strips of skin can be applied without danger of their being washed away by the blood the process may be completed.

Case II.—R. McC., aged 50, an old soldier and an inveterate drunkard, had a chronic indolent ulcer of four and a half years standing on the middle third and anterior surface of his leg, covering an area of two and a half by three inches. He had been under treatment in hospital for seven weeks, but his ulcer had made no progress towards healing. On the 22nd of August I dissected out this ulcer and transplanted skin from the thigh, as in the last case. The dressing in this case was never changed, and was finally removed on the 15th of September, twenty-four days after operation, when the wound was found to be perfectly healed. A light gauze pad was applied over the new skin for protection and the patient discharged.

Case III.—Jas. E., aged 14, was admitted to hospital on the 5th of July, 1887, with a crushed foot. It was found necessary to amputate his first and second toes, and extensive sloughing of the skin followed. He came under my care about the 1st of August, with a granulating sore extending from the instep, in front, to a corresponding point on the sole, continuous over the points of the metatarsal bones, from which the toes had been disarticulated, and over the inner margin of the foot, covering an area of about three by five inches. I kept this sore under observation for three weeks, and on the 23rd of August, as it

had made practically no progress, I operated. In this case I removed the granulation layer with a Volkmann's spoon, and transplanted from the thigh, as in the previous cases. The dressing was left undisturbed until the 14th of September, twenty-two days after operation, when the wound was perfectly healed and the boy discharged.

CASE IV.—Sarah C., aged 44, a pale, unhealthy-looking subject, was operated upon on the 26th of September. In this case the ulcer, which was about an inch and a half in width by four in length, was treated by scraping away the granulations with a Volkmann's spoon and transplanting from the thigh. The dressing was removed on the 18th of October, the twenty-second day after operation, and the wound found to be perfectly healed. A gauze pad was applied, and finally removed on the 4th of November and a flannel bandage substituted. This patient had been four weeks in hospital under ordinary treatment, and the ulcer, which was of four and a half years standing, was making gradual, but very slow progress at the time of operation.

CASE V.—H. O., aged 43 years, was admitted to hospital for erysipelas on the 1st of August. On the 1st of September I saw him for the first time. He was then suffering from a suppurating bursitis and subcutaneous suppuration all about the right knee, with a large irregular patch of ulceration about one and a half by four and a half inches in area, on the outer side of the joint, caused by sloughing of the skin. At this time I drained and cleansed the suppurating cavities, and on the 17th of October, everything being healed but the ulceration already mentioned, I transplanted skin from the thigh. In this case, as the granulation layer was very healthy and presented an even surface, and the parts were quite aseptic, I did not remove any of the granulation tissue. The dressing was removed on the 9th of November, twenty-three days after operation, when the wound was entirely healed. This patient is still in hospital for treatment for the stiffness of his knee and a small sinus leading to the almost completely obliterated bursal cavity.

CASE VI.—A. B., a factory girl, aged 17, on the 18th of October last, got the third finger of her left hand caught in

machinery, the result being that the whole of the soft tissues in front of the distal phalanx, and the skin and subjoined cellular tissue on the anterior surface of the second phalanx, were completely torn away. I saw the patient almost immediately after the accident, and as the bones, articulations and tendons were intact, I determined to try and save the finger. I could not at the time and under the circumstances transplant skin to it, but cleansed it and dressed it with sublimated gauze. On the 24th of October I transplanted a strip of skin from her arm. On the 9th of November, fifteen days after operation, I removed the dressing and found the wound entirely covered with a delicate bluish, semi-translucent film of skin.

I have since operated upon two other cases, but as the dressings have not yet been removed I cannot say anything as to the results. I may add, however, that I have given you full reports of all my cases up to date, and that I have not had even a partial failure.

These cases have no special interest in themselves, but they demonstrate the ease, certainty and rapidity with which skin may be reproduced by this method on ulcers which cannot otherwise be induced to heal. As to its applicability, there is no class or variety of non-specific ulcer which cannot be immediately prepared for the reception of flaps of skin, nor does the size of the ulcer increase the difficulty or delay the healing. In very large ulcers, skin may be taken from a limb about to be amputated or from one or more volunteers independent of the patient. The wounds made by the removal of the skin flaps being very superficial heal rapidly, and are not followed by contraction or other ill effects of cicatrization. Every surgeon will recall cases of extensive ulceration following mechanical or chemical injury to the skin, burns, frostbites or cellulitis, or cases in which it has been necessary to remove large areas of skin for malignant growths upon or closely beneath it (as in carcinoma of the mamma for example), and in which, after months or years, a poor contracted cicatrix was the best obtainable result, while oftener, perhaps, the ulceration remained, or developing into an epithelial cancer, proved rapidly fatal. Again, how many men and women

past middle life go for years and years with chronic, irritable or indolent ulcers, especially on the lower extremities, occasionally for a period inactive, or even tending to heal a little, but, on the whole, gradually increasing in superficial area and depth until amputation is called for in many cases? In all these cases we have, I believe, in this method of skin transplantation a line of treatment absolutely safe and as certain and satisfactory as we have for any other class of surgical diseases. Its advantages over the older method of skin-grafting are obvious. It is applicable to all kinds of ulcers without preparatory treatment. It covers the whole area with skin instead of isolated points, which merely act as starting points for epithelial growth. The end is attained in an infinitely shorter space of time and with much less trouble; and finally the result is a sound skin, not a tense tissue-paper covering which will give way again on the slightest provocation.

ON HEPATIC CIRRHOSIS OF THE LIVER.§

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Having met with two cases of that rare affection in children, cirrhosis of the liver, I venture to make them the subject of a few observations; not that I hope to remove the obscurity which surrounds the subject, but rather to add to the few examples already recorded two more, in which neither the use of alcohol nor the virus of syphilis can be assigned as the cause of the hepatic cirrhosis. I confess also to the desire to induce the members of this Association who may have had similar cases, to place them on record, and also to evoke the views of my colleagues respecting the pathology of the disease.

The infrequency of cirrhosis of the liver in children may be substantiated by a few quotations. Thierfelder* speaks of the "absolute rarity of the affection as regards children." Henoch† admits that he never found the disease "fully developed in children." Dr. Charles West‡ states that "an experience of

§ Read at the second annual meeting of the Association of American Physicians, Washington, June 2, 1887.

* Ziemssen's Cyclopedia, ix. p. 175.

† Lectures on Diseases of Children, 1882, p. 232.

‡ Dis. Infancy and Childhood, 7th ed., p. 654,

70,000 cases of children's disease had yielded him but four examples of hepatic cirrhosis." The late lamented Flint, in a private letter to me respecting one of the cases about to be reported, dated December, 1884, remarks that "in so young a subject the disease is exceedingly rare." And Neureuter§ estimates its ratio to other diseases admitted into the Franz Joseph Hospital for children at one-tenth of one per cent.

Permit me first to relate the two cases that have been under my own care.

CASE I.—Miss ——, aged 9 years, was brought to me in November, 1878, on account of a few nævoid-looking groups of vessels on the right eyelid, which had formed, her mother thought, since a severe attack of pertussis experienced in the preceding July. On January 27, 1879, my services were again sought, because the child had been "poorly for some weeks." It was subsequently admitted that she had not been well for several months. She had been weak, fretful, nervous, and unable to perform her school-work, and her appetite had failed. Her leading symptoms at this first visit were a subicteroid tint of skin and conjunctiva, and enlarged liver, its lower margin extending an inch and a half below the ribs; the spleen also in the same condition, and its lower end perceptible two inches below the ribs. The upper abdominal zone was very perceptibly enlarged; indeed, her mother had for some time thought the child's waist increased in circumference. Pulse 114; temperature 103.8°F.; tongue clean; urine of deep orange color; a loose cough, not explained by examination of chest, the organs in which were normal, so far as physical signs could be relied on. Expectoration scanty, semi-transparent, viscid, and pink from the presence of a minute quantity of blood.

Personal history.—Is one of four children; all of whom are living and healthy, except a brother, who died of membranous laryngitis at five. All the four children have had symmetrical handsome faces and figures, devoid of evidence of rickets, hereditary syphilis, or scrofula. The patient has always been healthy, and made good recoveries from measles, croup, chickenpox and whooping-cough. She had escaped scarlatina.

Family history.—Mother is remarkably healthy and well-nourished. Mother's father died of valvular disease, mother's mother of disease of the kidney; a maternal uncle of phthisis, and a maternal aunt of laryngeal diphtheria; another maternal

§ Oesterreichisches Jahr. f. Pædiatrik, 1877, viii.

aunt died of cerebral embolism from rheumatic valvular disease, a third from puerperal convulsions, and a fourth, three weeks after parturition, from some puerperal inflammation. Three maternal uncles and two aunts are alive, and enjoy goad health.

The child's father, a vigorous, healthy man, has not had syphilis, and uses alcohol in moderation. The paternal grandfather had always been healthy, and died in advanced life; the paternal grandmother died when comparatively young, the cause of her death is not known; all the other members of the father's immediate family, viz., a brother and two sisters, are living and healthy.

It would occupy too much time to report the daily notes, so the leading facts must suffice.

A febrile temperature prevailed throughout the four months that the child lived after coming under observation. During the first four days of February it was 104°, and for the rest of the month it ranged between 101° and 100°. The average daily temperature for the first fourteen days of March was 100.7°, and for the remainder of the month about 99.4°. For the first week of April the temperature ranged between 101° and 100.5, for the second week between 100° and 99°, and for the rest of the month between 100° and 98 8°, although it was but three times below 99. For the first half of May it ranged between 100° and 101°; during the last ten days of the patient's life the temperature was not recorded.

Epistaxis was frequently present throughout the illness, in moderate amount, yet sufficient to soil three handkerchiefs a day. It had occurred, however, very often since the attack of whooping-cough in July.

Hemorrhage from the kidneys was also a persistent symptom after its first appearance on February 25th. The urine was rarely free from blood after that date, but the removal of the pressure of the ascitic fluid, by tapping, was followed by a temporary sensible reduction in the proportion of blood contained in the urine.

In the early part of February, pain of the character of "belly-ache" was experienced in the umbilical region for one day, but it was unaccompanied by tenderness on pressure. Pain in the splenic region was complained of for three days before the first tapping, which was performed on April 7th. It did not recur in that region for three weeks, during which time the belly was rapidly refilling. The night succeeding the first tapping, pain occurred in the right side of abdomen, and persisted for the four succeeding days, unaccompanied by tenderness, or a higher temperature than had immediately preceded the paracentesis;

and the ascitic fluid was found to be transparent even after the third tapping, which became necessary a fortnight after the second.

From these facts it may be concluded that the turbid serum and recent lymph found in the peritoneal cavity after death were the products of a latent peritonitis which succeeded the last paracentesis.

Perceptible enlargement of a few veins in the epigastric zone was noted on February 10th ; by May 3rd many large mammary veins were found inosculating with these ; and by May 17th the thoracic and abdominal parietes were covered by numerous large veins, suggestive of the serious obstruction that existed in the portal system.

Ascites was first noted on March 4th. It resisted digitalis, squill, cream of tartar, potassium iodide, and an occasional cathartic or an active diaphoretic ; and tapping became necessary on April 7th, when nine pints of transparent citron-colored serum were removed. The operation was repeated on April 21st, and for the third time on May 4th, on which occasion eleven pints were evacuated.

A reduction in the size of the spleen was noticed after iced compresses had been applied over the organ three times a day for thirty or forty minutes at a time, but a month afterward the organ had regained its former size.

On the 26th of February, the day after the first occurrence of hæmaturia, the *urine* had a sp. gr. of 1.022, and a smoky appearance, but no marked sediment. It contained about one-third by volume of albumen, many leucocytes and blood corpuscles, very few highly granular hyaline casts, and, in the same field, a single waxy and a single epithelial cast. The urine of the 5th of May had a sp. gr, of 1.014 ; it contained only one-twentieth of its volume of albumen ; numerous blood globules, several large epithelial cells containing numerous fat globules, and a single hyaline cast, were seen in one field.

On the 10th of April my friend, Dr. Osler, counted the blood-corpuscles, and reported 2,400,000 red per cubic millimetre, and 1 white to 144 red. Six days later, with the same proportion of red corpuscles, the ratio of the white to the red was 1 to 91. From the report of the latter date the following memorandum is taken : " Nothing of special note about the corpuscles—red natural, of uniform size ; no microcytes. White of natural appearance ; very little variation in size. No nucleated red corpuscles."

On the 12th of March a troublesome dry cough set in, accompanied by fine bubbling in the bases of the lungs without the

whistling rhonchi of bronchitis. About the same time a moderate general puffiness of hands, feet and legs appeared; symptoms which, when taken in connection with the character of the urine a fortnight before, probably indicated a renal source. The state of the kidneys after death favors this view. During the last eight or nine days of life, grave disturbance of the nervous centres occurred: delirium, ravenous appetite, tearing of bed-clothes, a soporose passing into an unconscious state. Next day recovery of consciousness, involuntary evacuations, reticence or actual inability to speak (not established which), extremely dilated pupils, twitchings. Then a half-conscious condition, attended with monotonous expression, general restlessness, and moaning. Death took place on the 23rd of May, four months from the time she came under treatment.

Autopsy made next day by Dr. Osler.—Eleven pints of turbid serum with flocculi of recent lymph in peritoneal cavity; adhesion of great omentum to intestines; parietal peritoneum thick and granular-looking, chiefly in the upper abdominal zone and on the diaphragm. Spleen about three times normal size; capsule thickened; texture tough, resisted the knife. Liver, right lobe adherent by thick layer of imperfectly organized lymph to under surface of diaphragm. The organ was large and thick; very granular; tough, resisting the knife; of a dirty white color; very anæmic—fine specimen of hypertrophic cirrhosis. The new fibrous tissue extended throughout the entire organ and appeared to be "mono-lobular." Gall-bladder contained a little clear citron-colored fluid. No gall-stones or obstruction of the biliary ducts. A laminated colorless coagulum within vena porta and loosely attached to its lining membrane. Stomach, suprarenal capsules, intestines and bladder were normal. Kidneys large and deeply-congested; cut surface coarse; capsule easily torn off; a moderate serous effusion into right pleura; a fine granular exudation over pleura, covering lower lobe of right lung; some clusters of gray tubercle in the upper lobe of both lungs; a caseous nodule the size of a dried pea in left upper lobe, and a caseating bronchial gland at root of right lung. Heart, brain and cord not examined.

CASE II.—Occurred six years after the first, in the brother of the little girl whose history has just been read. He appears to have had in previous years the same diseases as his sister, and, like her, to have escaped scarlatina. Some two years before the detection of the illness about to be described, this boy, then eight years old, was brought to me by his mother, as he looked pale, appeared not to be thriving, and she feared that he might

be the subject of the same affection as his deceased sister. Nothing definitely wrong was discovered by me at that time, nor a few months later by another physician; but the child improved while taking lactopeptine. In May, 1884, he was seen by me on account of a slight herpes circinatus, and his health appeared to be good at the time. The summer months were spent at the seaside, where he underwent a good deal of fatigue without apparent ill effect. For a fortnight after returning home he appeared to be in good health, but at the end of that period he became languid and unfit for work or play. I was then (12th of September, 1884) requested to see the child, and noted the following: subicteroid hue of skin and of the conjunctivæ; urine deeply bile-tinged; stools contained bile; waist appeared enlarged, and epigastric zone prominent. Hepatic dulness extended from fifth space to over a couple of inches below the margin of ribs in the nipple line and well down into the epigastrium in the median line. The splenic dulness was also much increased. Two small patches of enlarged venules under left eye and one upon the side of the neck were present, of a bright red color, and exactly like those observed on his sister. No enlarged lymphatic glands, although twelve or eighteen months before a single gland in one groin was somewhat hypertrophied.

As in the first case, a febrile temperature was present. During the first month it ranged between 99.4° and 100.4°F., and during the second between 100° and 101° in the forenoon. It did not exceed the latter point at any time beyond half a degree. The pulse-rate was lower than in the first case. It did not pass 90 till the middle of October. It gradually rose to 104 in the succeeding month, and reached 108 to 110 during the last week of life.

The liver and spleen enlarged rapidly, and in a month from the first examination their lower borders reached the horizontal level of the umbilicus. As in the previous case, the dimensions of the spleen subsequently became reduced, so that after the first tapping its lower border was only about on a line with the margin of the left hypochondrium. It was found, however, an inch lower nine days later, after the second tapping. The liver also suffered a reduction in volume; for by the 5th of December its lower edge was only two inches below the margin of the hypochondrium, instead of reaching to the level of the umbilicus. Epistaxis set in early in September and recurred several times, but only in small quantities. Hæmaturia was not observed, and only once, on the 19th of December, did blood appear in the vomited matters, and then the amount was trifling. Jaundice was present when the child first came under my care, and deep-

ened with the advance of the case. The urine was always deeply bile-stained, but the stools were never devoid of bile.

The blood was examined but once (the 11th of October). It contained no excess of white corpuscles and was of a deep red color. The existence of ascites was established on the 26th of November, and it increased so rapidly that the fluid required to be drawn off on the 6th of December, when five pints of transparent citron-colored serum were evacuated by means of an aspirator. A second tapping became necessary nine days after the first. The fluid had its former character.

Œdema appeared in the feet and legs on the 12th of December, and reached the scrotum and lower part of the trunk on the 14th. The distention of the scrotum became so considerable that, on the 19th, three or four needle punctures were made and the œdema permanently relieved thereby.

Numerous large veins, branches of the epigastric and mammary, were present in November, but did not attain in either number or size the proportions observed in the previous case.

Pain, chiefly in the epigastrium and over the splenic region, was first complained of on November 22nd; it was unaccompanied by tenderness on pressure. It persisted about eight days, and was very severe on the 30th of that month. After that the child frequently complainedof pain in the belly, which, at the time, I attributed to the distension of the abdomen.

On the 21st of December a peculiar delirium, attended by screaming and violent shaking of the hands, set in, and lasted about three hours. The same thing occurred on the 23rd and early on the 24th, and lasted about the same time. Coma supervened at 10 A.M. of the 24th. The respiration was slightly stertorous, with flapping of the cheeks; the pupils were widely dilated, but contracted on first exposure to light, and then became as large as before. There were frequent tetanic spasms of the extensors fixing the forearm in rigid extension; rigidity of the lower limbs, the feet being rigidly extended upon the legs; and occasionally twitching of the eyelids. Death took place at 2 P.M., four hours after the advent of coma.

Autopsy twenty-five hours after death; cold weather.—No cadaveric rigidity. Icteroid hue of general integument. Five pints of orange-colored transparent serum, devoid of lymph flakes, in peritoneal cavity. No signs of acute or chronic peritonitis. Liver, two and a half pounds, enlarged; left lobe very broad vertically; right lobe also large and its posterior border very thick; the edges of anterior border thin; no adhesions of liver to adjacent parts. Its surface everywhere presented the typical "hob-nail" appearance. A shallow depression, about equal in

area to that of a man's palm, was seen about the centre of its convex surface, and the granulations over this depression were very closely set. The substauce was dense, resisted cutting very markedly, and was of a deep yellow color. Gall-bladder full of bile, but not over-distended. No gall-stones present. Common duct pervious. Spleen enlarged three or four times its proper size, not adherent to adjacent structures, and like the liver, free from opaque or thickened patches on its exterior. Substance firm, cut surface coarse-looking and exhibiting some dark purple areas. The peritoneum and exterior of intestines normal. Right lung not consolidated. Left lung, kidneys, heart and brain not examined. My notes of the autopsy contain no mention of tubercle in the right lung; had any been present, I doubtless would have recorded their presence.

Dr. Wyatt Johnston, Demonstrator of Pathology in McGill University, has kindly given the following summary of the microscopical appearances of this liver: "The fibrous tissue is seen to be developed in connection with the portal system and surrounds the acini, which vary greatly in size and are nowhere very large. Where the fibrous tissue penetrates the acini, it does so as a considerable bundle, and not in fine intercellular filaments. The centres of lobules are free from fibrous tissue; central veins not dilated; bile-ducts look natural. In the liver cells the nuclei do not stain deeply. This is owing, no doubt, to the long maceration in weak spirit; and to the same fact is probably due the apparent absence of small, embryonic, fibrous tissue cells at the border of the fibrous tissue."

Before making a few observations on the subject of cirrhosis of the liver, it may be well to say that in this paper, by that term is meant a diffuse development of the connective tissue of the liver without reference to the question of the inflammatory or the simple hypertrophic nature of that development. The word interstitial hepatitis is employed as synonymous with hepatic cirrhosis. The known conditions in the human subject under which interstitial hepatitis occurs are somewhat numerous and may be thus classified or grouped:

1. Toxic or irritating substances entering the blood: (*a*) especially alcohol, (*b*) syphilitic virus, (*c*) malaria, (*d*) probably, but rarely, lithic acid when productive of the lithic acid or gouty dyscrasia,* and (*e*) blood pigment in diabetes.†

* Thierfelder doubts this, but Murchison maintains it from his own observation: Diseases of Liver, 3rd ed., p. 636, 1885.

† Hanot: Arch. de Phys. Normal et Path., Paris, 3 s. vii. 50-87, and Latulle: No. 20, Bull. et. Mem. de la Soc. Méd. des Hôpitaux.

2. Chronic congestion of the hepatic vein, as in valvular and pulmonary diseases, and in those rare affections, of which I have seen examples, obstruction or obliteration of the hepatic veins, or of the inferior vena cava above entrance of the hepatic vein.

3. Adhesive inflammation of the portal vein (pylephlebitis), especially the syphilitic variety.

4. Extension of inflammation to the interstitial tissue of the liver in chronic peritonitis, and in perihepatitis.

5. Obstruction of bile-ducts, whether from congenital defects (absence of common duct) or from post-congenital disease (tumors, gall-stones) or from experiment (ligatures).

6. In association with tubercular disease, more especially of the lungs.

7. As part of a general tendency to new formation or hypertrophy of connective tissue in the system, the so-called fibroid diathesis.

I have not had time or opportunity to institute a very extensive search into the literature of the subject, but have collected sixty-one cases of cirrhosis of the liver in children up to the age of puberty, which, with two personal cases, give an aggregate of sixty-three.

It seemed to me best thus to limit the age rather than include cases even of young adults, for, in the latter, the influence of alcohol would probably be found to be a dominant one, as it is in persons of middle age. I have also excluded cases of hepatic cirrhosis due to congenital defects of the biliary ducts. Confining our attention, for the present, to the *causative* relations of these sixty-three cases, some interesting facts are brought out.

In the first place, the above-mentioned conditions, under which cirrhosis of the liver is known to occur, were alleged to be present in but thirty out of the sixty-three cases, leaving over one-half of these to be accounted for.

1. The ordinary cause of the disease in adults, the excessive use of alcohol, existed in only 10 (Cases 2, 4, 5, 6, 26, 27, 35, 50, 51, 53) of these cases of cirrhosis in children. Its absence was noted 47 times, and no mention was made of it in 6 cases.

2. A heredito-syphilitic origin obtained in 7 cases, the cirrhosis existing at birth in all but one, a boy sixteen years of age. One

of these children was born in the thirtieth week of gestation, and another in the thirty-fourth week. The absence of syphilitic causation was affirmed in 29 cases, and no mention was made of it in 30 cases.

3. In 3 of the syphilitic cases the virus set up an adhesive peripylephlebitis which terminated in a diffuse interstitial hepatitis, and these are the only instances in the whole number of cases of hepatic cirrhosis in children in which adhesive inflammation of the portal vein was the starting-point of the process.

4. Venous congestion of the liver, a not infrequent factor in the production of cirrhosis in the adult, existed in but a solitary case (14). The condition present, obliteration of the hepatic vein close to the vena cava, is exceedingly rare at all periods of life. I have seen one example of it.

5. The lithic acid diathesis is not once mentioned as having been present in these cases; and

6. The same is true of malaria and ague. The absence of malarial influence, however, is only affirmed seven times; it may often have been overlooked.

7. In a single case (48) the existence of widespread false membrane in all parts of the abdomen and a complete envelope of it enclosing the liver, suggest that peritonitis may have extended to the capsule of the liver and excited the interstitial hepatitis. In another case (24) there were numerous adhesions between the liver and surrounding parts, but no general peritonitis.

8. The association of hepatic cirrhosis with tuberculous disease obtained in 7 of these collected cases (7, 15, 28, 29, 30, 46, 54), perhaps in 8 (9); about the same proportion as that in which cirrhosis and syphilis were coexistent.

9. There are recorded examples, in the adult, of the existence of cirrhosis of the liver along with a tendency to a condition of general fibrosis in the system.

In Cases 25 and 47, two organs, the liver and kidneys, were cirrhosed. Cases 5 and 19 are examples of three organs having undergone chronic interstitial fibroid alterations. Thus, in Case 5, the child had taken a great deal of wine between meals and the liver was typically cirrhosed, the spleen large and firm,

and the mucous membrane of the stomach thickened. Again, a girl of thirteen (Case 19), without a history of intemperance, had, together with extreme hepatic cirrhosis, evidences of old double pleurisy and old peritonitis. Case 31 is that of an infant which died at birth, free from a syphilitic history, in which Virchow found cirrhotic changes in the liver, spleen and kidneys coexisting with peritonitis. But the most striking instance of a general tendency to overgrowth of connective tissue is afforded by Case 4, that of a girl aged six, who occasionally "took beer at dinner, but did not like it," and in whom, in addition to cirrhosis of the liver, there was hypertrophy of the connective tissue and an infiltration of small round cells in the spleen, kidneys, stomach, heart and brain. The walls of the blood-vessels in all the organs were also thicker than natural.

In only six, then, of the fifty-seven examples of non-syphilitic cirrhosis of the liver in children, omitting those in which the liver and spleen, but no third organ, had undergone cirrhotic changes, can it be said that the hepatic cirrhosis was the outcome of a general tendency of the system to fibrosis; and in only one of them (Case 4) was found such a thickening of the walls of the blood-vessels as would justify the application of Gull and Sutton's theory of an arterio-capillary fibrosis as the source of hepatic cirrhosis, at least in children. It is, however, to be borne in mind that the condition of the vascular system has, very probably, not often been investigated in this affection in childhood.

The instances in which a firm or tough condition of the spleen occurred in association with cirrhosis of the liver, other organs escaping such alterations, have not been included in the above illustrations of a more or less general tendency to fibrosis, because the splenic alterations are reasonably explicable upon other grounds, such as habitual over-stimulation of the spleen by passive congestion of its structure with portal blood: the blood, moreover, probably containing products irritating to that viscus. But it is only right to say that in thirteen instances (Cases 3, 5, 8, 10, 15, 16, 17, 18, 21, 23, 42, 54 and 55), along with the hepatic cirrhosis, the spleen was found large and firm; and in two instances tough (Cases 14 and 31). In eight instances

(Cases 6, 11, 16, 24, 27, 43, 45 and 46) it is simply called "large," and in one (Case 56) "large and soft." It may be said that in twenty-four of the fifty-seven cases of the non-syphilitic group the spleen was abnormal.

Assuming that we have so far determined the causative relation of about one-half of these sixty odd cases of hepatic cirrhosis in children, what about the other half? Before attempting an answer to this question it will be well to recall the fact that, in addition to the above-mentioned well-established conditions under which interstitial hepatitis occurs, there are others which have been suggested, but which need much investigation and corroboration before they can be accepted as proven, however probable they may appear both from analogy and fact. George Budd,* over forty years ago, suggested that "there may be other substances among the immense variety of matters taken into the stomach, or among the products of faulty digestion, which, on being absorbed into the portal blood, cause, like alcohol, adhesive inflammation of the liver." Much more recently, in 1872, Botkin† advanced the hypothesis that the acute infectious diseases may originate chronic inflammatory processes in the parenchymatous organs, because he had found in a number of cases commencing interstitial inflammation of the liver in persons dying of cholera or of typhoid fever. And Klein,‡ in 1877, described an acute interstitial hepatitis as present in eight cases of scarlatina which he had examined.

Now, although, so far as I am aware, no instance has been recorded in which cirrhosis of the liver was shown to be a *direct* sequence of scarlatina, cholera or typhoid fever, yet, as it is established that in the kidney the poison of scarlet fever does frequently set up acute inflammation of the parenchyma and interstitial tissue, which often becomes chronic, why may not the liver occasionally suffer a similar chronic inflammatory process; and what support is afforded to that view by this collection of cases? An analysis of the thirty-eight instances of cirrhosis of the liver contained in this summary, which cannot be referred

* Diseases of Liver, 1845.

† Quoted by Thierfelder in Ziemssen's Cyclop., ix.

‡ Path. Soc. Trans., xxviii. 439.

to any of the established causes of that affection, shows that in nine instances the following acute infectious diseases preceded by a longer or shorter interval the cirrhosis: viz., scarlatina twice (Cases 3 and 25), measles and scarlatina once (Case 42), measles alone four times (Cases 22, 36, 45 and 56), measles and pertussis thrice (Cases 8, 54 and 55). In twenty-five instances no mention is made of acute infectious diseases as antecedent to the cirrhosis, and they were absent in three. The relative frequency of measles and of scarlatina in the above-mentioned nine cases was as 8 to 3; rickets once (Case 13) preceded the cirrhosis.

When the frequency with which the acute infectious diseases occur in childhood is borne in mind, it is plain that the above statements cannot be said to establish Botkin's hypothesis. Certainly, the infrequency with which hepatic cirrhosis obtains in children who have gone through the common infectious fevers is quite in contrast to the comparative frequency with which chronic nephritis follows scarlatina, and we need much stronger evidence than has been adduced to prove that the acute infectious fevers are causes of hepatic cirrhosis in children. However, an exception is admitted, as already mentioned, in favor of intermittent fever or of malaria.

Even if it be granted that in the nine cases in which acute infectious fevers did precede the hepatic cirrhosis, they really originated the interstitial lesion, there remain three in which those fevers had not occurred, and twenty-five in which no mention is made of them as having existed. For such examples of hepatic cirrhosis, Budd's explanation is available and appears highly probable. Indeed, it is more especially in childhood when alcohol, as a cause of hepatic cirrhosis, can be safely ignored in a large proportion of cases, that we feel disposed to accept the view that the products of faulty digestion and certain stimulating kinds of food conveyed to the liver set up interstitial hepatitis. It is well known that many of the lower animals (cow, pig, horse, deer, etc.) are subjects of hepatic cirrhosis. The fawns at Guy's Hospital, to which the students from time to time gave linseed meal as a *bonne bouche*, died of cirrhosis of the liver.

It is impossible to bring much evidence in favor of this mode

of causation from the cases that we are analyzing, owing to the absence of information as to the habits, diet, etc., of the patients. In the two cases observed by myself the children habitually partook of the same kind of food as their parents, and that was at least of a stimulating character for children, the family being noted for the excellence of their cuisine.

Besides food containing articles more or less irritating to the liver, besides new products from faulty digestion, there is a class of bodies which were hardly known when Budd wrote his article that may play a part in the production of interstitial hepatitis—such are the alkaloidal products of albuminous decomposition which of late years have been receiving attention—the ptomaines. Some of these may be the initiating cause of interstitial hepatitis. This subject has not as yet received much attention.

The ages at which cirrhosis of the liver occurred in these children were—

At birth	1	
" 3 months	1	
" 17 "	2	
" 20 "	1	under 3½ years, 10.
" 2 years	1	
" 3 "	2	
" 3½ "	2	
" 5 "	4	
" 5½ "	1	
" 6 "	2	5 to 8 inclusive, 13.
" 7 "	3	
" 8 "	2	
" 8½ "	1	
" 9 "	5	
" 10 "	7	
" 11 "	7	9 to 13 inclusive, 28.
" 12 "	5	
" 13 "	4	
" 14 "	1	
" 15 "	1	14 to 18 inclusive, 3.
" 18 "	1	
Not stated	2	

According to this analysis, the greatest liability in childhood to hepatic cirrhosis is from the 9th to the 12th year, inclusive.

As regards sex, there were 35 males and 17 females, and in four other cases the sex was not stated. (The syphilitic cases are not included.)

Referring to the character of the cirrhosis in these 56 non-

syphilitic cases, the atrophic form obtained in 19, the hypertrophic in 13; in six the organ was of normal size, and in two instances the patient was yet living when reported upon.

The symptoms of hepatic cirrhosis in children are identically those of the disease in the adult. I shall speak very briefly upon a few of them. In the two examples seen by the writer, there were present, on the face, stigmata composed of collections of dilated minute venules. Although they have been spoken of by some few authors, they are rarely alluded to in systematic descriptions of cirrhosis, and are mentioned but once in the records of the other cases, 61 in number, reported in the summary accompanying this paper. Their presence should suggest an examination of the liver with special reference to the probable existence of cirrhosis.

The opinion commonly held by the profession is that cirrhosis of the liver is a non-febrile disease, yet in 10 (Cases 1, 5, 6, 12, 27, 34, 42, 45, 55 and 56) out of 52 cases, uncomplicated by other affections that might produce pyrexia, cirrhosis was associated with fever—that is, in 19.2 per centum. The same association obtained in five other instances (Cases 7, 9, 13, 46, 54) in which either simple or tuberculous inflammation complicated the cirrhosis and may have produced the pyrexia. Dr. R. E. Carrington,* who has recently drawn attention to this circumstance, found an irregular febrile temperature present in 18 out of 44 cases of cirrhosis, or in 43 per cent. (This list includes seven children's cases.) It would not, however, be safe to conclude from these figures that cirrhosis is less frequently associated with a febrile temperament in children than in adults; for the records of many of these are altogether devoid of details on this point. Of these 10 febrile cases of uncomplicated cirrhosis, 4 presented the hypertrophic form, 4 the atrophic, and 2 had normal sized livers.

In the 56 cases of non-syphilitic cirrhosis, ascites existed in 34, was absent in 8, and was not mentioned in 14. It is interesting to note that in the 13 instances of hypertrophic cirrhosis, ascites was absent but twice, not mentioned twice, and present,

* Guy's Hospital Reports, vol. 42.

contrary to the opinions of some authors, 9 times. On the other hand, abdominal dropsy was absent in 4 out of 19 instances of atrophic cirrhosis, in which it is thought to be rarely wanting, present in 14, and not mentioned in 5 cases.

Icterus, more or less deep, was present in 23 cases, absent in 12, and not mentioned in 21 of the non-syphilitic group. These cases do not confirm Fagge's* statement that where cirrhosis is associated with jaundice the liver is not contracted, as a rule, but is increased in size. For, in the 13 hypertrophic examples jaundice was present 7 times, absent 3 times, and not mentioned 3 times; while in the 19 atrophic examples it was present 10 times, absent 4 times, and not mentioned 5 times. In other words, icterus coexisted with the hypertrophic form in 70 per cent., and with the atrophic in 71.4 per cent.

One point more and I have done. The fatal issue of hepatic cirrhosis in children is brought about in many different ways, but there are three especially frequent, viz., toxæmia, or certain disturbances of the nervous system, peritonitis, and by asthenia, in the production of which hemorrhage plays an important *rôle*. These three modes of termination obtained respectively in 12, 9 and 8 instances. Pneumonia seems to have been the immediate cause in 3 instances. The following affections hold the same relation respectively in one instance: pleuritis, pulmonary congestion, tuberculous meningitis, ulceration of the entire colon, and "diarrhœa with fits."

The toxæmic symptoms in these children, the subjects of hepatic cirrhosis, have been more especially violent fits of crying, and, frequently, of screaming, delirium, dilated pupils, stupor, tremor, twitchings, clonic or tetanic convulsions, rigidity, coma, and hemorrhages from stomach, nose, intestines or kidneys.

In conclusion, it results from this analysis of these 63 cases of hepatic cirrhosis in children—

1st. That most of the established causes of the disease in adults obtain also in children, more especially the use of alcohol, present in 15.8 per cent. of the whole number; syphilis, chiefly hereditary, present in 11 per cent.; tuberculous disease of other

* Guy's Hospital Reports, 1875.

organs than the liver, in 11 per cent.; also, but much less frequently than these, venous congestion of the liver, peritonitis, and a general tendency to connective-tissue formation in the system.

2nd. That syphilis occasionally tends to a diffuse interstitial hepatitis or cirrhosis, by first inducing an adhesive inflammation of the portal vein.

3rd. That a general arterio-capillary fibrosis is not proved by these cases to be the usual, and probably not even a frequent, cause of hepatic cirrhosis in childhood.

4th. That more than half of the cases of hepatic cirrhosis in children do not appear to be produced by the above-mentioned well-established causes of that affection.

5th. That there is some evidence that cirrhosis of the liver may be very exceptionally induced by the acute infectious diseases—cholera, typhoid fever, measles, scarlatina,—but that proof of this is wanting.

6th. That the habitual use of a stimulating diet, or the absorption of the products of faulty digestion, are probably fruitful sources of hepatic cirrhosis in children.

7th. That it is in harmony with what is known of the causes of hepatic cirrhosis to believe that the bodies known as ptomaines may be capable of exciting a cirrhotic condition, and that investigation of this subject deserves attention.

8th. That the period of childhood most liable to cirrhosis of the liver is from the ninth to the fifteenth year, inclusive, but that it may be congenital and may occur at any age after birth.

9th. That it is twice as frequent in male children as in female.

10th. That its symptoms are essentially the same in childhood as in adult life.

11th. That it is frequently accompanied by pyrexia.

12th. That ascites or icterus, and frequently both together, are of common occurrence in the atrophic and the hypertrophic forms.

13th. That the group of symptoms which have been referred to cholæmia or to cholesteræmia or to acholia, and even sometimes to uræmia, freqnently usher in the fatal issue of hepatic cirrhosis in children.

Hospital Reports.

MONTREAL GENERAL HOSPITAL AND MONTREAL DISPENSARY.

GYNÆCOLOGICAL CASES UNDER CARE OF DR. ALLOWAY.

Cases of Divulsion, with Incision of Posterior Segment of Cervix, for relief of Dysmenorrhœa and Sterility.

A. B., aged 26, menstruates every three weeks, duration ten days, and always accompanied with severe dysmenorrhœal pain.

Examination showed evidence of chronic pelvic inflammation. Floor of pelvis was low down, rigid and intensely tender; uterus anteflexed, very slightly moveable, and os discharging glairy mucus; cervix elongated, conoid, and external os extremely small and surrounded by lips extensively eroded.

This patient was kept under the iodine and glycerine treatment for two months. By this time the pelvic floor was quite soft and elastic; uterus had lost all its tenderness, and could be pulled down to the introitus. The patient was quite free from pain and much improved in health. Operation performed and endometrium curetted. Patient left her bed twelve days afterwards. Extent of dilatation 1¼ inches.

C. D., aged 28, married three years, never been pregnant; menstruation irregular, generally at intervals of four weeks, but often passing on to the sixth week. Patient states that before marriage she was very strong and well nourished, now emaciated, pale, dyspeptic, and complaining of pain in back, sides and hypogastrium during intermenstrual period. Dysmenorrhœa so severe that she is confined to bed for several days.

Examination shows excessively tender pelvic floor, especially on attempting to raise the uterus to higher level in pelvis. Uterus anteflexed; cervix elongated and conoid; os extremely small and discharging tenacious glairy mucus.

This woman was confined to bed two weeks on hot water injections, which removed in great part the excessive tenderness of pelvic floor. For the next six weeks she attended the clinic for the iodine and glycerine treatment. The operation was performed and uterus curetted. Extent of dilatation 1¼ inches. Patient returned to her home twelve days after operation.

E. F., aged 25, married five years, never been pregnant. Menstruation profuse, duration eight days. Severe dysmenorrhœ, followed by leucorrhœa.

Examination.—Chronic pelvic inflammation. Endometritis, cervix small, equally developed, not eroded nor in any way diseased. Uterus has normal forward inclination, but somewhat fixed and painful during indigation.

Patient confined to bed for three weeks on hot water douches, followed by one month of iodine and glycerine treatment. Operation now performed. Dilatation 1¼ inches. But instead of doing Sims' posterior incision (when the cervix is unequally developed —posterior segment elongated) I did Simpson's bilateral incision, the cervix being equally developed and of normal size. This patient left her bed on the twelfth day.

The above few cases are reported in a very condensed form; many symptoms already known to us as nearly always accompanying such cases being omitted. I have operated upon a large number of cases lately for relief of dysmenorrhœa and sterility with very good success, and have now several cases under preparatory treatment for operation. In the April (1887) number of the CANADA MEDICAL AND SURGICAL JOURNAL, under *Hospital Reports*, will be found a description of the various steps of the operation. With regard to the far distant result of the procedure I am unable to speak, as the lapse of time will here be required; but I can say that all of the cases on which I have operated within the past year have, with one exception, experienced relief from the agonizing dysmenorrhœal pains; have much improved in general health; and the endometritis has been apparently cured. The case in whom little benefit resulted, except for the three months following the operation, is a miserable neurasthenic creature, who complains of what she calls "rheumatic" pains in almost every region of her body. This case I have had undergoing the Apostoli electrical treatment, having made three intrauterine applications. This patient has just passed her menstrual period, and tells me that she did not experience anything like so much pain as previously, that she was able to do her regular housework during the flow, instead of remaining in bed as formerly. The flow has also been

less and free from clots, and there has been an absence of the agonizing headaches usual at that time. This case will, during the continuation of the treatment, present considerable interest to me, and will be somewhat of value in the various forms of treatment in severe cases of chronic endometritis and hyperplasia.

Case of Unusual Injury to Female Urethra.

E. R., appeared at the clinic complaining of incontinence of urine. Age 33, married 20 years, six children, one miscarriage, youngest child five years of age; menstruation regular, but scanty; leucorrhœa profuse. States that it is only within the last three or four months that she became aware of the incontinence. On examination, there appeared to be no trace of the normal urethra, but, instead, a loose flap of thickened tissue about one inch long and half an inch broad. It was irregular in shape, and when raised up disclosed the bladder opening, through which the finger could be introduced into that viscus. The mucosa of the bladder seemed to be rough and granular to the feel and the organ somewhat contracted in size. It appeared as if the condition resulted from a laceration of the urethra on each side during the passage of the head at one of her confinements, probably during unskillful use of the forceps.

The patient has been admitted into hospital, and two operations will be done for her relief. By repairing one side of the torn urethra at the first operation, and causing the patient to rest during convalescence on the opposite side, the bladder will be drained without the urine interfering with union. At the second operation, the other side of the urethra will be repaired in same manner.

Under Hospital Reports in the *British Medical Journal* of December 3rd, 1887, page 1210, a report of some interesting cases of this nature is given by Dr. Braithwaite of the Leeds General Infirmary.

Case of Delayed Relief of Symptoms of Pelvic Inflammation after Removal of Uterine Appendages.

This was an interesting case, showing the necessity of inform-

ing patients of the fact that they may not always obtain relief after abdominal section until, perhaps, twelve or eighteen months have elapsed.

The patient in question, aged 26, had been for some years past a great sufferer from pain due to chronic pelvic inflammation. She had failed to obtain relief through the ordinary methods, and therefore submitted to the operation for the removal of the appendages. In due time after the operation she did not however obtain relief, and when she appeared at my clinic she was in a most wretched state from intense suffering. She had become a useless inmate of a charitable Home, and although the desired premature menopause had arrived, her suffering was still the same. During six months this patient had no other treatment than iodine and glycerine tamponade, and she is now quite free from pain, is strong, and works hard as a general servant in a large family.

L. B., aged 23, unmarried; began to menstruate at 12 years of age, and states that ever since that time has suffered from dysmenorrhæa. The duration of flow has never been less than eight days, recurring regularly every fourth week. About two years ago the flow became very excessive, lasting two or three weeks at a time, there being an interval of cessation only of three or four days. The discharge was composed chiefly of large clots. There has always been some pain in back, sides and hypogastrium, but not sufficiently severe to incapacitate her. She is now intensely anæmic, and unable for the first time to leave her room.

Examination rather unsatisfactory on account of the very tender, rigid, and somewhat immoveable condition of the pelvic floor; uterus large and in the normal position; cervix eroded, and os discharging a chocolate-colored bloody mucus.

This case is under the Apostoli electrical treatment, and will be reported on again more fully. She has had two applications of the anode to the interior of the uterus according to the method of Apostoli of Paris, and has had no hemorrhage since first application, now three weeks. She is much improved in health, and is able to walk to my house every second day for accessory treatment.

I have at present a number of interstitial myoma cases undergoing electrical treatment at the hospital with apparent benefit, and will from time to time give to the readers of the JOURNAL a report of methods and results of this treatment.

A word about the apparatus and technique of application of the electrical treatment in uterine disease. The apparatus, when complete, is expensive, and it is quite an undertaking to arrange satisfactorily. It involves some expenditure of time in the preparation if carried out in the way Apostoli recommends. This difficulty is much lessened however, in hospital practice where skilled assistance is always at hand. In the Montreal General Hospital we have the most complete and satisfactory outfit it has been possible to obtain. The battery consists of 50 Leclanché cells from the Law Telephone Company of New York, upright and horizontal galvanometers, water rheostat, every possible kind of rheophores and electrodes, and that beautifully delicate and interesting instrument, the *thermostat*. The faradic coils are of the most improved make, and give extreme variations of tension and quality. My own consulting rooms I have had fitted up with the same battery cell by the Bell Telephone Company of this city. The other accessory instruments I have obtained from New York, Chicago and Paris.

Reviews and Notices of Books.

Anatomy, Descriptive and Surgical.—By HENRY GRAY, F.R.S. Edited by T. PICKERING PICK. A new American from the eleventh English edition; thoroughly revised and re-edited, with additions, by WM. K. KEEN, M.D. 1100 pp. Philadelphia: Lea Brothers & Co. 1887.

A work which has gone through so many editions as this requires but little to be said about it. The popularity of Gray's Anatomy both on this side of the Atlantic and in Great Britain is not a mere passing one, but bids fair to be permanent. Each successive edition has been improved, until at present Gray's Anatomy is one of the best anatomical text-books in the English language. The American edition, now before us, is edited by that very able anatomist, Dr. Keen of Philadelphia, and has

additions which make it even more complete than the ordinary English work. It is a case of "*O matre pulchra filia pulchrior.*" Many new cuts have been introduced, chiefly of sections through joints and frozen sections of the trunk and extremities. A most important addition has been made to the anatomy of the brain, viz., a number of cuts to illustrate cerebral localization and topography, and also the anatomy of the cerebrum. Altogether, one hundred and thirteen new engravings have been added, many original, and all useful. The text is prefaced with a paper on "The Systematic Use of the Living Model in Teaching Anatomy" by the American editor. A revised edition of "Holden's Landmarks" completes the volume. This edition may be obtained with colored veins, arteries and nerves.

We heartily recommend the book to practitioners and students not only as a text-book, but as a book of reference.

The American Journal of Psychology.

The first number of this new journal has appeared, edited by Prof. G. Stanley Hall, and published under the auspices of the Johns-Hopkins University, which has done so much for science and learning generally in America. The present number contains four original papers, all of them belonging to the domain of psycho-physics; then follows in very fine print a large mass of psychological literature, consisting very largely of reviews of recent books. In reviewing, praise and blame are dealt out in no stinted measure; there is no mistaking the writer's meaning in any particular case, nor his attitude towards the subject as a whole. As illustrating this feature of the new journal, we may point to a review of Prof. Ladd's magnificent work on Physiological Psychology (reviewed also in the November number of this JOURNAL), and which brings into the boldest relief the standpoint of the Baltimore school of psychology. On page 162 there is a glowing picture of the insights that are vouchsafed to the experimenter and to him alone. In fact we are given to understand in the plainest language that there is only one safe road to psychology—the new experimental method. The writer, speaking of Prof. Ladd's work, concludes that "nearly all the defects in the book before us spring from the circumstance that

the facts of physiological psychology are viewed with the eyes of Peter Bell, which, seeing, see not." The tone of this new journal throughout makes one feel that no "old psychology" need apply.

There is a most searching and valuable review of the work of the English Society for Psychical Research. The conservative attitude of this criticism will commend itself generally. There occurs in the same article a passage which has such bearings on biology and medicine that we quote it as it stands:

"In modern biology, culminating in neurology, where so many of both the secrets and the revelations of science are coming to centre, that one might almost say the undevout neurologist is mad, a firm foothold is at length secured in which mind and matter, so long and so widely divorced that from the fallow between them wild and unsightly growths had waxed strong, and thick, and old, have a common interest, and the dangerous chasm between them is slowly closing. Physicians appeal to the imagination with bread pills and placebos, are less ashamed of interest in hypnotism and are less disposed to regard even hysteria as the *summum incognitum*, and the study of insanity as worthy of the briefest of all courses in medical schools, while clergymen and metaphysicians, on the other hand, who used to practice healing arts in the good old time, when 'Godlike was the doctor who was also a philosopher,' are beginning to take some interest in the body and to read books on mind cures, and psycho-physics, hygiene and physiological psychology, and to realize that the student of religion and of idealism cannot, with impunity, neglect the study of the common forms of morbid psychosis. We desire, for our part, to see the psychological movement, which now seems destined to mark the present as the psychological, as the last quarter of a century has been the biologico-evolutionary age, kept in the severest sense, experimental and scientific."

This quotation will show how extensive is the field the modern psychology proposes to cultivate, and by what means this is to be accomplished. Between this almost uncompromising stand and the less exclusive position of Prof. Ladd we have a choice. For our own part we have no hesitation in believing that grand

as the results of experiment may be, they cannot and will not take the place of that old method of introspection which has accomplished much, even if it has failed to reach the goal of perfection. We are opposed to any exclusive methods in the attainment of truth. Has the art of thinking kept pace with the methods of experiment? Does not the latter of itself tend to divert the mind from profound reflection and severe analysis? Are not both necessary for the attainment of truth—are not all methods man can devise to be *combined* to furnish even a modicum of the perfect ideal knowledge?

We suppose the new American school of psychology would not theoretically antagonise this attitude; but every page of this journal either bristles with opposition to the old psychology or looks coldly on it, and "observation and experiment" are the methods, says the reviewer, by which "we prefer to labor."

We take it that the movement is bound to run a free course and establish how much in its claims are valid and how much specious and unfounded. One thing is certain, the new method will do much for biology and medicine, possibly as much or more than for the solution of the great problems of mind; for this reason, most of all, we welcome this new journal and wish it well.

With the prestige of the wealthy and vigorous University where the new psychology has its chief seat in America; with the learning and ability of its leader and the enthusiasm of its cultivators, we feel justified in looking to the new science during the next ten years to show what it is capable of doing for the thought and progress of our age. That it will accomplish much we feel certain; that it will permanently supplant and render wholly obsolete all other methods of investigating the phenomena of mind we doubt.

A Practical Treatise on Diseases of the Hair and Scalp.—By GEORGE THOMAS JACKSON, M.D. New York: E. B. Treat.

This work is not meant for the lay public, but really aims at being a scientific treatise. The author has succeeded in accumulating all that is known about the diseases of the hair and scalp, and he presents it in a very readable way. The book is divided

into parts. Part I treats of the Anatomy, Physiology and Hygiene of the Hair. Part II, Essential Diseases of the Hair, such as Alopecia, Canities, Sycosis, etc.; and Part III, which is, perhaps, the most practical and useful of all the parts, treats of the parasitic diseases. Part IV is merely what is got in every text-book, and considers those diseases of the hair which are secondary to diseases of the skin. The book is printed in large type and profusely illustrated. The chapter on alopecia will interest a large number of medical readers personally; it is very full, all varieties are described, and the contagiousness of certain forms is discussed. The parasitic diseases are well described, and the treatment employed by various authorities given in detail. Every practitioner will be interested in this work, and will derive great advantage, from its study, for there is no class of diseases which gives so much trouble to the family physician as those of the hairy scalp, which are, as a rule, little understood by the average man, who prescribes for them in a very perfunctory and rule of thumb manner. The only fault we have to find with the book is that there is not enough of the author's own personal experience in it.

Drainage for Health, or Easy Lessons in Sanitary Science.—By JOSEPH WILSON, M.D. Philadelphia: P. Blakiston, Son & Co.

This is a short treatise written with the object of pointing out the dangers of deficient drainage both of town and country, and contains some valuable suggestions with regard to the deep-drainage of farms likely to render them both healthy and productive. The unhealthiness of certain parts of the country are due, thinks the author, to the presence of too much water in the soil, and he explains the salubrity of pine forests to the fact that the decaying roots of pine trees form natural drains, while at the same time the layer of dead leaves and twigs upon the ground prevent to a certain extent the uprising of earthy emanations. The chapter on the drainage and surrounding of country houses is valuable, showing the dangers so commonly present. The prevalence of diphtheria in country parts does not become inexplicable when we consider that at most farm-houses garbage

heaps are allowed to stand in close proximity to the well, where the cellars are always damp from the rain-pour of the roof falling upon improperly constructed trenches and gravitating into the cellar. There are many such farmhouses in this country, and from such places our milk supply comes.

Dr. Wilson's little book represents some well known facts forcibly, but we can scarcely see how it may be useful to sanitary engineers, however it may meet the wants of farmers and legislators. With the same number of pages, much more useful matter might have been included.

A Handbook of General and Operative Gynæcology. By HEGAR and KALTENBACH. Vol. II. Edited by E. H. GRANDIN. New York: Wm. Wood & Co.

This is Vol. VII of Wood's Cyclopædia of Obstetrics and Gynæcology. Hegar contributes a short chapter upon operations on the tubes, and another upon operations for the cure of prolapse of the vagina and uterus and for the restoration of the vaginal sphincter apparatus. Kaltenbach treats of operations on the uterus, broad ligaments, round ligaments, vagina, vulva and perineum, as well as the operations for the relief of urinary fistula. The chapter upon operations on the uterus is the fullest and best; many of the others are incomplete, especially in their reference to British methods and results. Alexander's operation on the round ligaments is not even mentioned. One may derive from these volumes a fair idea of gynæcology as practised in Germany, but as British and American methods are almost ignored, the value of the work as a general handbook is much impaired.

Diseases of the Female Mammary Glands. By BILLROTH. And **New Growths of the Uterus.** By GUSSEROW. Edited by E. H. GRANDIN. New York: Wm. Wood & Co.

These two monographs form Vol. IX of Wood's Cyclopædia of Obstetrics and Gynæcology. Although giving nothing very new or original, the authors have collected a mass of valuable information which will be found convenient for reference and

study. The subject-matter is well arranged, the style clear, and the translation good; while the reputation of the distinguished authors is sufficient guarantee for the accuracy and reliability of their work.

Manual of Clinical Diagnosis.—By DR. OTTO SEIFERT of Würzburg and F. MULLER of Berlin. Third edition. Revised and corrected by F. MULLER. Translated by W. B. CANFIELD, M.D., Lecturer on Histology and Chief of the Clinic for Throat and Chest, University of Maryla New York and London: G. P. Putnam's Sons. Montr Dawson Brothers.

In a small compass, we have here a manu very favorably with the most esteemed pose written by English authors. The o tory and circulatory systems are in our op.... es At the end there is a valuable dose table, giving doses preparation according to both the common and metric syste This will prove a great boon to many physicians. The work is one which we have much pleasure in recommending to both the practitioner and the student.

Transactions of the Medical and Surgical Faculty of the State of Maryland. Eighty-ninth Annual Session. Baltimore, April, 1887.

We have received the Transactions, and under the sections on Obstetrics and Gynæcology note the following:

A Review of some current Obstetrical Contributions by the chairman (Dr. Wilmer Brinton). The author pays a tribute to the advance made in antiseptic midwifery by obstetricians all over the world, reciting many illustrations in support of the same. We, however, do not agree with Dr. Brinton when he says, "not that the general practitioner will be able to use antiseptics so well or minutely as is done in well conducted maternities and lying-in hospitals, yet he can approximate to those minutiæ in a degree which will make his patient's child-birth practically aseptic." This declaration is very bad teaching, to say nothing of it being untrue. To our mind, there is nothing to preve

the general practitioner being just as immaculately clean and aseptic as the ever careful specialist.

Dr. Goodman of Louisville, Kentucky, read a paper on "Ergot after Labor." The author sustains the position of withholding ergot from parturient women except upon rare occasions, such as post-partum hemorrhage. We agree with the author in the main, in regard to the use of ergot, which will certainly shortly become unfashionable. Independent of hemorrhage, however, we would still recommend it after labor in delicate women who have feeble reconstructive powers, and in whom there is a great lack of muscular power and nerve force, often especially marked in the involuntary muscle and nervous system of the uterus. Such women are very liable to subinvolution, passing, after repeatedly recurring pregnancies, to a state of chronic metritis with its attendant evils.

Dr. William T. Lusk reported his successful case of Cæsarean section, which took place at Bellevue Hospital in March, 1887. Dr. Lusk used an elastic ligature above the cervix, the Lembert stitch, and did not resect any uterine tissue or partially separate the peritoneum. He used silk-worm gut sutures thirty-four in number for the uterine wound, and silver wire for the abdominal. A drainage-tube was placed behind the uterus; 1 to 5000 solution of hydrg. bichl. was used during the operation. Convalescence was uninterrupted, with exception of the formation of a few mural abscesses in the line of the abdominal wound. This is the first successful Sänger Cæsarean section to the credit of American surgeons.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, October 28th, 1887.

JAS. PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

PATHOLOGICAL SPECIMENS.

Parasitic Onychia.—DR. JOHNSTON exhibited (1) a microscopic section of a nail showing parasitic onychia. The specimen was sent him by Dr. Bell, who had believed the case to be of this nature. The chains of trichophyton were seen in moderate numbers in the deeper layer of the nail and between the nail and its

bed, though a mass of dry porous tissue formed over the bed of the nail was free from the parasite.

DR. BELL gave the following history of the case: Miss E., aged 20, in scraping the back of her thumb nail about a year ago, cut through it about the middle. A light brown spot developed at this point and gradually extended to its free margin, and then began to grow backwards towards the cicatrix. It was painless. When seen the anterior two-thirds of the nail was dull and dry-looking, yellowish-brown in color, and raised from its bed at the free anterior margin to the extent of nearly half an inch. The tissue between the nail and its bed, at the margin, was quite dry and cancellated, resembling the cancellated structure of a dry bone. The nail was removed by slitting down the centre and removing the two portions separately. This cancellated structure was separated from the nail-bed by a thin fibrous layer, beneath which the nail-bed was absorbed. Owing to its peculiar appearance the nail was macerated and sections cut through the diseased part. On examination, there showed in considerable quantities the mycelium and spores of the trichophyton, resembling the fungous as seen in tinea circinata rather than as usually seen in T. tonsurans. There was no history of tinea on this patient's skin, nor, as far as she knew, on other members of her family.

Broncho-Pneumonia.—(2) A microscopic section through the lung of a sheep in a case of broncho-pneumonia, where great numbers of the embryos of strongylus filaria were found in the alveoli, which were filled with exudation, and there was severe bronchitis and peribronchitis of the smaller tubes. The adult forms were not found within the bronchi, having probably been coughed up. The embryos are not able to develop beyond this stage in the lung.

Amputation of the Thigh.—DR. BELL exhibited a patient whose thigh had been amputated for periosteal sarcoma. (The specimen was exhibited at the last meeting.) This patient was 18 years of age, and at the time of operation was in a very bad condition. His temperature ranged from 100°F. to 103½°F., his pulse from 120 to 140 per minute, and he was greatly emaciated. Amputation was performed by the circular method, about two inches below the base of the trochanter major, on the 3rd of October, and from that time his condition improved with extraordinary rapidity. His temperature remained steadily at 98½°, and he rapidly regained flesh. The dressing was changed once only on the eighth day, and finally removed on the twenty-fourth day after operation, when the stump was soundly and perfectly healed.

Osteotomy for Bow-legs.—A child 3½ years of age was shown to the Society, on whom Dr. Bell had performed double osteotomy. The condition was the result of rickets, from which the child had perfectly recovered. The operation had been done by MacEwen's method, and had resulted very favorably. Photographs were shown of the child's legs before operation.

Discussion.—DR. RODDICK referred to the good results obtained by Dr. Bell using bone drains. His experience with this mode of draining was not so favorable, as he found that the bone drains were too rapidly absorbed. While he congratulated Dr. Bell on the excellent results obtained in his operation for bow-legs, yet he could not agree with the necessity for the operation. Dr. MacEwen, who introduced the operation, does not recommend its application in patients under 9 years. He (Dr. Roddick) had obtained quite as good results from the use of mechanical contrivances in children even older than the patient. He thought that in most cases subcutaneous fracture is to be preferred to osteotomy, as it is a less serious operation, and offers less risk. While opposed to operations in most of these case of deformity, he thought it was more often called for in knock-knees than in bow-leg, as the former requires much longer and more painful treatment.

DR. SHEPHERD said that in one of the few times he had used bone drains he found patient's temperature had risen and the drain plugged with a clot. He always prefers using rubber drains, which he cuts down to three-quarters of an inch at end of twenty-four hours. In Germany the "single dressing" mania often results disastrously to the patient. In German hospitals he was frequently shown single dressing-cases where the temperature chart indicated an unhealthy condition of the wound. He had seen Dr. Bell's patient before operation, and could heartily congratulate him on the success of his operation. With regard to the osteotomy case, he referred to the errroneous but common opinion that all cases of bow-legs result from rickets. The peculiarity is often hereditary, and is quite normal in many of the anthropoid apes.

DR. ARMSTRONG referred to Dr. Levis' system of drainage. He uses solid rubber strings placed side by side, instead of tubes, thus obviating the danger of plugging.

DR. GURD said he had seen very good results from treatment of bow-legs by improving the general health. He had great faith in the efficacy of good hygænic surroundings and the use of tonics in such cases. Instruments have proved unsatisfactory.

DR. BELL, in reply, stated that the drains used were made from chicken bones, by the method recommended by Dr. Mac-Ewen of Glasgow. These could be obtained as hard or as soft as desired. In the case of osteotomy, the curve in the child's legs was greatest just above the maleolus, so it could not be treated by subcutaneous fracture.

Notes on Acetanilide.—DR. MCCONNELL first briefly stated what was known about acetanilide or antifebrin up to the present time. It was procured from aniline acetate., is a white powder resembling santonin, insoluble in water, but soluble in alcohol. It is neither alkaline nor acid, and resists the majority of reagents. Belongs to the order *Phenylacetamides*, quite different from the orders containing the majority of antipyretics, viz, the Phenols and Chinolins. Actions claimed for it are that it rapidly reduces the temperature in febrile states, without producing any untoward effects; that it is also hypnotic and analgesic, being especially useful in relieving pain linked with nerve alterations. In poisonous doses it will destroy oxyhæmoglobin, changing it into methæmoglobin. It is inexpensive, being only 10 francs per 1 kilogramme in France. Had used it in about 20 cases, 16 of which he had records of—9 were cases of typhoid fever—in all of which the temperature was promptly reduced. The following case may be regarded as typical of its action in this disease:

Girl aged 9; Oct. 25th was seventh day of fever; at 5 P.M., five grs. acetanilide were given, when pulse was 120, respirations 28, and temperature $105\frac{2}{5}°$.

5.00 p.m.	—Pulse	120,	resp.	28,	temp.	$105\frac{1}{5}°$	—Face and general surface pale, dry, and hot.
5.10	"	" 120,	"	28,	"	105°	—Pink flush on both cheeks, pulse stronger.
5.20	"	" 120,	"	32,	"	$104\frac{3}{5}°$	—Forehead, neck and trunk moist, and whole surface of reddish hue; somewhat more restless.
5.30	"	" 112,	"	32,	"	$103\frac{3}{5}°$	—Has become tranquil and fallen asleep; skin moist. no visible perspiration.
6.00	"	" 120,	"	30,	"	$102\frac{4}{5}°$	—Surface in same condition; still sleeping.
6.30	"	" 108,	"	24,	"	$100\frac{4}{5}°$.	
7.00	"	" 102,	"	24,	"	100°	—Asked for a piece of bread.
7.30	"	" 102,	"	24,	"	100°.	
8.00	"	" 108,	"	25,	"	$100\frac{3}{5}°$	—Skin has become dry.
8.30	"	" 108,	"	30,	"	101°	—Pulse diminished in volume and of less force.
9.00	"	" 112,	"	30,	"	$101\frac{1}{5}°$	
9.30	"	" 112,	"	30,	"	$102\frac{2}{5}°$	

10.00 p.m.—Pulse 116, resp. 28, temp. 102½°
10.30 " " 120, " 30, " 103½°
11.00 " " 120, " 32, " 103°
1.20 a.m. " 120, " 30, " 103⅘°

Oct. 26, 11 A.M.—Mother states child appeared to be very feverish from 12 to 8 A.M., and was restless and drank milk frequently. Six grs. were given to-day; same effects observed, only there was more perspiration, and temperature became normal, remaining so for only an hour. Temperature subsequently rose on the 30th to 106°, and on the 31st to 106⅗°, but was always reduced to about normal; but the doses were increased to 8 grs. Three and four doses were required in the 24 hours to keep the temperature at or about normal, child resting quietly after each dose and taking nourishment freely at present date, Nov. 7th. It would seem in this case that the temperature, after the effects of acetanilide have passed away, rose higher through its action.

Discussion.—DR. PROUDFOOT had used acetanilide in painful affections of the eye, such as iritis and glaucomata, in doses of 10 to 15 grs. He found it reduce the temperature and relieve the pain almost instantly. If the pain was not relieved in one hour, he usually repeated the dose.

DR. STEWART said he had very little experience in the use of the drug. He had, however, administered it in five-grain doses to relieve the lightning pains of locomoter ataxia, and found it very efficient. He regarded it as dangerous to give powerful drugs in fever cases to reduce temperature, as these act on the oxyhæmoglobin, thus reducing the patient's powers of resistance.

DR. REED stated that from Dr. Charcot's recommendation he had used it, but had not been able to relieve pain. He had found it reduce the temperature for a time, though not sufficiently to encourage him to continue its use.

DR. PERRIGO said that the drug failed entirely in a case of malaria, in which he had tried it.

DR. RODDICK congratulated Dr. McConnell finding something to relieve the distressing headache of typhoid. He had given it in a case of erysipelas, but it had no effect on the temperature.

DR. BLACKADER had also administered the drug in erysipelas with very little effect. The German authorities state that it is without effect in scarlet fever and erysipelas. He thought, however, that the anodyne properties of the drug would keep it in the pharmacopœia.

In reply to remarks of Dr. Stewart that its action on oxyhæmoglobin was an objection to its use, DR. MCCONNELL said this only occurs to any appreciable extent when over-doses are

taken. The antipyretic action is almost altogether exerted through the nervous system, and chiefly the vaso-motor. The want of effect in cases referred to by Drs. Reed and Perrigo was owing to its having been administered in too small doses.

Selections.

HUMPTY-DUMPTY AND HIS MEDICAL ADVISERS.

Humpty-Dumpty had a great fall, and, feeling rather sore, said to himself, "Now I will go and see a doctor, who will cure me at once." So he put on his hat, and walked along until he came to a street of large houses. On the door of these houses were brass plates, and behind these brass plates were the doctors who cured everything. Then he walked up to one of them, and knocked at the door, and rang a bell marked "Professional," to show that he had come on business, as he had had a fall and felt sore, and wanted to be made well again. Presently the door was opened, and Humpty-Dumpty was shown into a waiting-room, where there were two or three others, who scowled at him for coming into the room, and went on pretending to read the daily paper and last year's *Punch*. After a long time he was shown into the doctor's private room, and said "Please, doctor, I have had a fall, and am sore, and I want to be made well." Now, this doctor was an ear-specialist, so he took a tube and looked down his ear, and said he could see it quite plainly. Then he said, "Have you the ear-ache?" "None at all," said Humpty-Dumpty. "Ah!" said the doctor, "you will have it the day after to-morrow. These falls are dangerous things; but we will do our best. I will prescribe a lotion which you must pour in at one ear and let it run out of the other. Then stuff them up with cotton-wool, and keep in a quiet room, away from all noise, and come and see me again as soon as you feel worse." Then Humpty-Dumpty paid his two guineas and went away joyfully to the chemist. Presently he said to himself, "Perhaps, after all, this man doesn't quite understand my case." So he went to another door, and in due time was shown in to another doctor. Again he said that his name was Humpty-Dumpty, and had had a fall. But this doctor was a throat-specialist, so he put a small looking-glass on the back of his neck and a long feather down his throat, which tickled him so much that he had a fit of coughing. "Ah!" said the doctor, "I see it all now. The arry-glottidean epiblast is in a sadly suppressed state." Now, when Humpty-Dumpty heard that his epiblast was wrong, he thought it was all up with him, and that he should never again be able to indulge in his favorite pastime of sitting on a wall. "But I don't feel anything wrong in my throat," he said faintly. "Wait a bit,"

said the doctor, "and you will see how I shall bring it out in the course of a week or so. I will prescribe you a vapor, which you must inhale, and as soon as you feel choky, insufflate this carminative powder, and call here every morning, in order that I may apply some luminous paint." Then Humpty-Dumpty paid his two guineas and went off to the chemist. "Perhaps," thought he, "this time also my case has been mistaken, so I will try again." And he went off to another house a little farther on, where he found several ladies, all looking extremely ill, and the horrid truth flashed across him that he must be in the abode of a ladies' doctor, and that these were the victims. He at once seized his hat, and ran out of the house before anyone could catch him, and arrived, breathless and perspiring, on the door-step of a mansion, with a brass-plate, on which the name of Sir Monger Pill was inscribed. "Now," thought Humpty-Dumpty, "I shall be right at last." So he went in, and before he could speak Sir Monger said, "Dear me, a bad case indeed. Breathing rapid, perspiration copious, pulse bounding," because he did not know that Humpty-Dumpty had just escaped from a ladies' doctor. "Lucky you found me at home," said he, and wrote prescriptions for draughts and pills, and told him to call again in three days. Then he said he must be off, so Humpty-Dumpty paid him two guineas, and told the story of his fall to the butler instead, who told him he ought to see a surgeon. Off then he went to Mr. Sniker Snee, and told all about himself. Mr. Snee said that it was a very serious case, that it might have been better and could have been worse, and that he must wear a plaster-of-Paris jacket, with an iron bar down his spine, for three years in order to get better. So Humpty-Dumpty went home, and felt very sad, and made his will. Then he thought he would try and eat some dinner, and have a glass of champagne to keep up his spirits. After dinner, he felt so much better that he amused himself by putting all the pills and medicines in a row, and thinking which he should begin on. But as he meditated, he fell asleep; and when he woke up in the morning he had quite forgotten about his fall. He found, however, that his pet dog had eaten the pills and expired, and that the landlady's cat had licked a plaster and gone into a fit. Later on, the miasma which was exhaled from the floor led to the taking up of the boards. Underneath them were found the bodies of the rats and mice who had perished from spontaneous combustion owing to their having partaken of an ointment. So Humpty-Dumpty never allowed himself to be ill again, for fear that he should share the fate of the poor animals, and he lived happily ever afterwards.—*Vanity Fair.*

CANADA

Medical and Surgical Journal.

MONTREAL, JANUARY, 1888.

THE SOURCES OF SYPHILIS IN WOMEN.

A few weeks ago Professor Fournier read an elaborate paper before the French Academy of Medicine, a report of which appears in *La Semaine Medicale*. The paper is based upon a statistical analysis of his private office practice for the past twenty-seven years, and is intended to refute the common misapprehension that syphilis is a disease derived only from debauchery and dangerous only to those who voluntarily expose themselves to it. Many argue that it does not seek out its victims like variola, typhoid or diphtheria, but must be sought; and as the exposure is voluntary on the part of the victim, they urge that public prophylactic measures are unnecessary, but that personal continence should be insisted upon.

Deducting doubtful cases, he has had in his office practice 837 cases of syphilis in females, which he divides into two main groups:

1. Cases whose origin was sexual..... 842
2. " " " " otherwise..... 45

The second group (5.07 per cent. of the whole) he calls "Syphilis of the Innocents," and subdivides as follows:

7 cases of hereditary syphills.
4 " " syphilis contracted during infancy.
8 " " " conveyed to wet-nurses by a nursling hereditarily infected.
5 " " " " to midwives by patients (on fingers or hands).
12 " " " " to infants by infected nurses or maids.
2 " " " " by vaccination.
2 " " " " by catheterising the Eustachian tube.
1 " " " " by rape.
4 " whose origin was unknown, but evidently not venereal.

The first group of 842 cases where the contamination arose from sexual relations, he divides into

366 Prostitutes.
230 Married Women.
256 whose social condition was not ascertained.

He was able thus to class 586 of his patients as either married women or prostitutes. From the 220 married women he deducts the following:

10 who admittedly contracted syphilis from a lover.
10 who did not admit infection from a lover, but whose husbands were examined and found healthy.
2 where both husband and wife had syphilis, and it was impossible to ascertain which infected the other.
34 where the husband was not examined.

Deducting these 56 cases, he had 164 married women who had been infected by their husbands. Of these 164 husbands he found

72 had contracted syphilis before marriage.
39 " " " after marriage.
53 uncertain as to the time.

Thus after the elimination of all doubtful cases he finds that in his practice nearly 20 per cent. of those who contracted syphilis from sexual causes were married women who were infected through no fault of their own.

Adding in the 5 per cent. of the second class, he concludes that in his experience at least 24 or 25 per cent. of the cases contracted the disease innocently and undeservedly. He concludes a powerful and eloquent appeal for the inauguration of public prophylactic measures as follows: "To institute a public prophylaxis against syphilis is really to protect every one; it is to undertake a crusade of public utility, a crusade worthy of the efforts of every one—doctors, hygienists and administrators—it is, in a word, to sanitate in a general way and in the public interest."

NOTES AND COMMENTS.

The public and the profession of Philadelphia have recently been much exercised on the subject of leprosy, as two or three cases have been under the care of Dr. Van Harlingen, who read a paper, and showed the patients, at the County Medical Society. The newspapers took up the question, and the Board of Health requested Dr. Van Harlingen to give the address of the unfortunates, but he refused. An unsuccessful attempt was made to return the patients to Brazil, from which country they came. Finally the health authorities succeeded, and the lepers are now strictly secluded in the Municipal Hospital. The matter of interest is in connection with the contagiousness of the disease upon which professional opinion appears to be undergoing a very decided change. The strongly adverse report of the Royal College of Physicians in 1867 did much to counteract the old view, and the general acceptance of the non-contagiousness of the disease cannot be better illustrated than in the words of the cautious and learned Hirsch, who says (Geographical Pathology, 1881), "The communicability of leprosy has not been proved hitherto by a single unambiguous fact." The discovery of the lepra bacillus has added interest to the disease, and a majority of the recent investigators are strong antagonists. Graham of Toronto, who has published the only exhaustive account of Tracadie, N.B. settlement (this JOURNAL, Vol. XII), concluded that the disease was imported from without, and finding favorable conditions was propagated from one person to another by contagion. Mr. Fletcher's account (*Canadian Practitioner*, 1881) of the Cape Breton lepers contains facts difficult to explain on any other views, and they have recently been used by M. Besnier in support of the contagious nature [see editorials in *Brit. Med. Jour.*, Nov. 12th and 19th, 1887]. Gardner's remarkable case [*Brit. Med. Jour.*, 1887, Vol. I] seems to prove positively that the disease may be transmitted by vaccination. The rapid increase of the disease in the Sandwich Islands can scarcely be explained in any other way.

Like Syphilis, it is probably a fixed contagion, and requires to be directly brought in contact with the abraded surface.

Possibly, too, there are conditions of the system [or tissues] which render individuals insusceptible, otherwise it is difficult to account for the immunity recorded in instances in which there was the closest intimacy, even that of husband and wife. Certainly the advocates of segregation have a strong case, but I doubt very much if, in a community like Philadelphia, alarm need be aroused by the presence of a couple of lepers, and the poor victims who had enjoyed a blessed ignorance of the nature of their disease might have been allowed to remain at peace under the supervision of such a careful dermatologist as Dr. Van Harlingen.

It is not surprising that Charles Darwin, whose father, Robert Waring, and celebrated grandfather, Erasmus, were successful practitioners, should have been sent in 1825 to join an elder brother at the Edinburgh medical school. The fact is referred to at some length in the autobiographical chapter which is included in the recently issued "Life and Letters. The two sessions there spent do not seem to have influenced in any way the future life of the great naturalist, who seems to have suffered severely from the lectures—the only mode of instruction at that time—which "were intolerably dull." He speaks of Dr. ——'s [it must have been Monro, tertius] lectures on human anatomy as exciting disgust, and says "it has proved one of the greatest evils of my life that I was not taught dissecting, for I should soon have got over my disgust; and the practice would have been invaluable for all my future work." Evidently his lack of interest was due in great part to absence of practical instruction, for during the summer, in his father's office, he took the greatest pleasure in the study of cases, and at one time had at least a dozen patients. He seems to have had an instinctive horror at the sight of blood, a trait derived from his father, who, curiously enough for a practitioner in those days, "could scarcely endure to see a person bled." A love of specimens and of collecting, which had developod at school, was encouraged by the Students' Plinian Society for the Study of Natural Science, before which Darwin read his first paper.

Dr. Parvin's paper on injuries to the fœtus [*Med. News*, Nov.]

reminds me of an interesting experience which I had in the North-West in 1886, which is worth placing on record. Mr. Fred. Brydges had kindly met our party at the Portage to take us over the Manitoba and North-Western Road, and he mentioned that two days before, a woman, while in the water-closet on the train, had given birth to a child, which had dropped to the track and had been found alive some time after. I was so incredulous that he ordered the conductor to stop the train at the station to which the woman had been taken that I might see her and corroborate the story. I found mother and child in the care of the station-master's wife, and obtained the following history: She was aged about 28, well developed, of medium size, and had had two previous labors, which were not difficult. She had expected her confinement in a week or ten days, and had got on the train to go to see her husband who was working "down the track." Having a slight diarrhœa she went to the water-closet, and while on the seat labor pains came on and the child dropped from her. Hearing a noise and groaning, the conductor forced open the door and found the woman on the floor in an exhausted condition, with just strength enough to tell him that the baby was somewhere on the track, and to ask him to stop the train, which was running at the rate of about 20 miles an hour. The baby was found alive on the side of the track a mile or more away, and with the mother was left at the station where I saw her. She lost a good deal of blood, and the placenta was not delivered for some hours. I saw no reason to doubt the truthfulness of the woman's story, and the baby presented its own evidences in the form of a large bruise on the side of the head, another on the shoulder, and a third on the right knee. It had probably fallen between the ties on the sand, and clear of the rail, which I found, on examination of the position of the hole in the closet, was quite possible.

WILLIAM OSLER.

McGILL UNIVERSITY.

ANNUAL DINNER OF THE UNDERGRADUATES IN MEDICINE.

The undergraduates in the Faculty of Medicine of McGill University held their annual dinner at the Windsor on Friday, December 2nd, 1887. The reunion of the medical students is perhaps the most enjoyable of the social events connected with McGill. Year after year, as the Faculty progresses and provides for the largely increasing demands on its teaching, the dinner seems to grow apace in extent and in the number of those attending it. The McGill students take an interest in the dinner, and their *esprit de corps* is shown in the enthusiasm with which they rally once a year for an occasion of good fellowship and social amusement, in company with the professors and benefactors of the College.

The dinner was held in the Ladies' Ordinary of the Windsor. There were about two hundred students present. The tables were tastefully decorated with flowers and plants. The dinner was served in the best style of the Windsor, and was worthy of the good name of the house. During the dinner some choice selections of music were given by Patton's orchestra.

Mr. J. H. Bell, B.A., '88, occupied the chair. To his left sat Sir Donald A. Smith, Prof. R. P. Howard (Dean of the Medical Faculty), Professor Wilkins, Professor Mills, Dr. Buller, Professor Penhallow, Mr. E. B. Ibbottson, and Dr. James Bell. To his right sat Prof. Johnson, Prof. Girdwood, J. J. Curran, Q.C., M.P., Dr. Shepherd, Dr. Geo. Ross, Dr. J. C. Cameron, Ald. Richard White, Dr. James Stewart (Registrar), and Mr. Geo. Beers. Among those present were Dr. Ruttan, Dr. Wyatt Johnston, Dr. Rodger, Dr. Browne, and Dr. W. Maclure. The vice-chairmen were Messrs. J. E. Orr, '88, E. W. Gemmill, '89, and H. H. Coleman, '90.

The committee in charge of the arrangements for the dinner was composed of Messrs. J. Hewitt, '88, chairman; Geo. Ross, A.M., M.D., honorary secretary; W. J. Delaney, '89, secretary; H. McL. Martin, '91, treasurer; R. P. Howard, M.D.; G. E. Fenwick, M.D.; R. L. MacDonnell, M.D.; W. R. Sutherland, M.D.; W. G. Johnston, M.D.; J. E. Orr, E. W. Gemmill, A. H. Coleman, '90, C. P. Jento, '90, and W. Troy, '91.

After dinner, the CHAIRMAN, on behalf of the students, bade their guests welcome. They took it as a proof of the kindly feelings which the citizens of Montreal had for the students when they had representative public men of the city present to join

with them in their social rennions. He specially thanked the Dean and Professors for their patience, and regretted that their beloved Principal, Sir William Dawson, was absent through illness. He also regretted the absence of Dr. Roddick, who was unable to be present. To the men of the fourth year he would say that he felt sure they did not want to have another students' dinner, but he trusted the men of the second and third years would continue the good example of having an annual reunion. (Applause.)

The SECRETARY read letters regretting their inability to be present from His Excellency the Governor-General, Sir William Dawson, Sir James Grant of Ottawa, Walter B. Geikie, Dean of Trinity, Toronto; Harvard Medical School, Judge Church, Hugh McLennan, Hon. J. J. C. Abbott, Mayor, the American Consul, Dr. Rottot, Jos. Hickson, John H. R. Molson, S. Finlay, W. C. McDonald, Thomas Workman, Prof. Kerr, Q.C., Judge Mackay, Prof. Bovey, E. B. Greenshields, and Dr. Roddick.

The following was also received:

"PHILADELPHIA, PA.

"Would I were with you to-night; blessing on my Alma Mater,

WM. OSLER."

After the toasts of "the Queen" and "the President of the United States" had been duly honored,

MR. J. E. ORR, 1st Vice-President, proposed "Our Sister Universities," extending to the representatives of the sister universities a cordial welcome. They had made a new departure this year in trying to bring together the representatives of sister universities from other parts of Canada and from the United States. He was exceedingly glad to have occasion to welcome a representative from one of the oldest and most celebrated of medical schools on the continent—Pennsylvania University.

MR. PREVOST, of the University of Pennsylvania, returned thanks for the hospitable manner in which they had welcomed him as a representative of his University. He congratulated the University of Pennsylvania on having such distinguished men as the greatest living biologist in the world, an Agnew, a Pepper, a Wood, and, he might say the greatest of all, an Osler—(applause)—whose untiring zeal, great ability and manly bearing had made a lasting impression on the University of Pennsylvania. (Applause.)

MR. SMITH, of the Toronto University, in responding, congratulated the men of McGill on the ample opportunity afforded them in their University and hospital practice for the study and

knowledge of their profession. He referred to the new Faculty of Medicine established in the Toronto University, and trusted that it would follow the noble example and traditions of old McGill. (Applause.) Speaking of the generosity of the citizens of Montreal in aiding the work of McGill, he spoke of the liberality to McGill of Sir Donald Smith and Sir George Stephen, the mention of the names of those benefactors being received with enthusiastic applause.

Mr. Palling, of Trinity Medical School, Toronto, Mr. Robinson, of Queen's University, Kingston, Mr. Hennessey, of Bishop's College, and Mr. Royal, of Victoria, suitably acknowledged the toast.

Mr. J. J. Curran, Q.C., M.P., met with a warm and hearty reception. He desired to express his deep gratification at being present at such a vast gathering and to thank the undergraduates for their kind invitation. He was always pleased to find himself amongst the intelligent youth of Canada—the hope of our country. (Cheers.) He hastened to say this, because he wished to be in advance of his hon. colleague, Sir Donald Smith, the junior member for Montreal, who was always anxious to be considered one of the boys. (Laughter and loud cheers.) That was the only pang of jealousy that his hon. friend felt towards him (laughter), but there was no occasion for it, as Sir Donald's name would be honored as one of the greatest benefactors of McGill University. (Cheers.) As it was, he could not do honor in a proper way to the toast of McGill University. The fame of the institution had gone abroad far beyond the confines of our own Dominion on the continent of America; it was in high repute not only in the mother country, but on the continent of Europe. They had heard that evening of the great names that had made their Alma Mater famous, and seated around their festive board were young gentlemen from distant lands who had been attracted by the fame their school of medicine had attained. (Cheers.) The fame of Canada would owe not a little of its splendor to McGill College and kindred institutions. He hoped the College would go upward and onward, achieving greater results in the future than in the past. (Cheers.) He would propose the toast of "McGill University," wishing for it long years of still greater usefulness and ever-increasing renown amongst the educational establishments of our land. (Prolonged cheers.)

Prof. Johnson, Vice-Principal of the University, responded. He regretted the absence of Sir Wm. Dawson, who had desired him to express sympathy with the object of the reunion. He

considered it a most important thing among educated men that there should be unity. A chaotic mass of people without educated leaders could not make material or moral progress, and meetings such as this did much to foster that unity.

Mr. E. W. Gemmill proposed the toast of "The Dean and Professors." The toast was cordially received.

Dr. Howard, the Dean, briefly acknowledged the toast, and asked Dr. Geo. Ross to respond.

Dr. Geo. Ross, Professor of Clinical Medicine, who met with a hearty reception, was glad to meet the students and join them in doing honor to their common university. It should not be forgotten that the professors were graduates of the University just as well as the students themselves expected to be, anxious to do honor to the University so eloquently referred to by Mr. Curran. He joined with the students in a most hearty and cordial welcome to those gentlemen who had taken the trouble to come from other Universities in Canada and the United States to join in their festivities. They felt all the more in sympathy with the student from Philadelphia owing to the fact that one of their most prominent teachers was a late graduate of McGill, and no one who knew Dr. Osler was surprised at the enthusiasm with which his name had been received. (Applause.) Another reason why such a meeting as this was fruitful of much good would be found in the fact that they had an opportunity of meeting the benefactors of the University. They all recognized the enormous obligation they were under to the public-spirited citizens of Montreal to assist pecuniarly the Faculty of Medicine. (Applause.)

Dr. Girdwood also responded. He thanked them kindly and sincerely for the cordiality with which the toast of the Dean and Professors had been received. He thanked them for the prescription the students had prepared for them in the dinner, a prescription which he partook of with pleasure. (Laughter.) Wherever the graduates of McGill had gone they had carried with them the reputation which the students and professors of the past had made for McGill. He enjoined the students to keep that reputation at its present high standing. He complimented the public-spirited citizens whose liberality had enabled them to place such ample facilities at the disposal of the students —facilities which he regretted he had not when he was a student. Much as had been done, much remained to be done, and he trusted that other generous citizens would assist them in their determination to advance McGill University. He asked the

students to look on the professors as brothers, and to come to them for advice and instruction. (Applause.)

Mr. Delaney then sang a charming solo in capital voice.

MR. W. G. STEWART proposed the toast of "Our Benefactors." They were proud of their University and proud of their benefactors. But for men like the generous citizens who aided their University they would not have such a University as they had to-day, nor would they have that brilliant gathering to-night. Their Alma Mater was doing a great work, and they pointed with pride to the fact that their professors of to-day were once students of the College. Their early benefactors had gone the way of all flesh. Men of noble principle and lofty mind laid the foundation of the great structure they had now. McGill, Caldwell, Sutherland, McDonnell, Stephen, and, later, Cameron, were names to be revered. In modern days they had as a benefactor Sir William Dawson—a man of great intellectual attainments, a man of culture and of noble Christian character, who obtained the highest position in the scientific world. He would always rejoice that he had Sir William Dawson for a teacher and a friend. How was McGill to keep pace with the times, for medical science was always on the advance, if they were not to receive aid from noble men? Head and shoulders over all others who had lavished his aid on the University was Sir Donald Smith. (Cheers.) They rejoiced that Sir Donald was with them to-night, and they accorded him a right hearty welcome. "The quality of mercy is not strained, but droppeth like the gentle rain from heaven to bless both him that gives and him that takes." He felt sure that Sir Donald Smith had as much pleasure in giving as they had in receiving. Day after day the students recognized the generosity of Sir Donald in their magnificent College, and not only the students, but thousands of the poor in after times would rise up and bless the names of Smith and Stephen. (Cheers.) He also returned thanks to Dr. J. C. Cameron for his recent benefaction to the College.

The toast was received with enthusiasm and hearty cheers for Sir Donald as he rose to respond.

SIR DONALD SMITH, M.P., said:—I wish that the toast had been assigned to some one else, but I will endeavor to respond to it in a few words. I should like to say one word to my friend and confrère, Mr. Curran. If I could possibly find fault or take exception to anything coming from my friend Mr. Curran, it would be that now and on every occasion he endeavors to detract from that veneration due to age by calling himself my senior.

[Laughter.] I quite assure you that I am not displeased with him this evening at all events, because by making me his junior it brings me nearer to the boys. [Applause.] Now and at all times I do feel very near to the young man in spirit, in interest and in sympathy. [Applause.] Sitting as I am privileged to-night beside your honored Dean, and looking at the rows of young men who are entering on the same profession, I am glad to see that you recognize in him one who has attained a position in his profession of which he may well feel proud, and that you regard that position with pride, too. You must feel with very great satisfactien that you have such worthy teachers, who are able and anxious to send you forth prepared to do honor to the high reputation of McGill. It has been well said by Mr. Stewart that the benefactors of McGill or any other medical school are not alone the men who give a little money, but the men who give their time, talent and energy to the school as your professors do. [Applause.] The position of the teacher is never a remunerative one. Anyone in the noble profession of medicine, if he cared for money, could make a great deal more than by teaching. It is because your professors are anxious for the honor of their University, and because they desire to educate worthy successors of themselves, that they devote their time and talents. When you find McGill turning out a man like Dr. Osler, who is a teacher of his profession in one of the first medical schools of the United States, you have reason to be proud of your Alma Mater. [Applause.] It gives me very great pleasure to hear from Professor Johnson that the art faculty for ladies is progressing so well, and that the announcement was received with the greatest cordiality by you. There may be different opinions on the subject of introducing ladies as members of the medical profession, but I am sure you will all join me in saying that we ought to be glad that women are willing and determined to advance themselves in learning as far as they can—[hear]—and that you will receive all most cordially who come to your University to be so instructed. With those ties which commence at the altar and continue through life, is it not well that our helpmates should be those who are scholarly, who are intelligent, and who can discuss matters on a par with yourselves? Coming to your own profession, is it not well that women should be instructed so as to become intelligent associates with you at the bedside of the sick, and that they should be intelligent associates we may hope that here, as it is in England and elsewhere, that some of the most educated ladies shall become nurses in the hospitals as well as in private families? It would be a very

great benefit, as I am sure you will all admit. With regard to the benefactors, I think it would be better if they were not so prominently brought forward on one occasion and another. All that any man could do by giving part of his means is very little indeed compared with what is done without pay in the profession itself. Let us hope that those who have the means will join together in assisting McGill, not only to maintain it in its present very high position, but by furnishing means to enable it to go forward and always keep in the front rank no matter what the advance in the science of medicine and surgery. I thank you very greatly for the generous way in which the toast of the benefactors of the University has been received, and of your kindly notice of my name in connection with it. To say more would be to say what I ought not to say. [Cheers.]

The toast of "The Ladies" was proposed by the chairman, and responded to by Mr. Wheeler.

The "Class of '88" was proposed by the second vice-chairman and responded to by Mr. N. D. Gunne.

A pleasant evening was brought to a close soon after midnight.

Medical Items.

CHANGES IN THE MEDICAL FACULTY OF MANITOBA COLLEGE. —A meeting of the Medical Faculty of Manitoba College was held on the 10th ult. to fill the vacancy in the Deanship and the chair of Surgery, occasioned by Dr. Kerr's resignation, and the chair of Medical Jurisprudence and Toxicology rendered vacant by Dr. Sutherland's retirement. Dr. J. W. Good was temporarily appointed to the chair of Surgery for the rest of the session. No action was taken in connection with the Deanship. Dr. McArthur was appointed Professor of Medical Jurisprudence; the appointment is regarded by the profession as an excellent one. The resignations of Drs. Kerr and Sutherland take effect on January 1st.

—Dr. A. H. Walker has opened a "Weir-Mitchell Sanatorium" at 38½ George Street, Hamilton, Ont. The number of cases demanding this form of treatment are constantly on the increase in this country, and we hope that Dr. Walker will receive that support from the profession which his energy and enterprise deserve. For particulars as to terms, etc., see our advertising pages.

CANADA

MEDICAL & SURGICAL JOURNAL

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Original Communications.

SOME QUESTIONS SUGGESTED BY THE PRESENT EPIDEMIC OF DIPHTHERIA IN MONTREAL.*

By Geo. E. Armstrong, M.D.,
Professor of Physiology, Bishop's University, Montreal.

I have found the cases of diphtheria in the present epidemic to be generally divisable into two classes.

1. *Very mild*, the exudation confined to one or both tonsils, and recovery taking place in from two to five days.

2. *Very severe cases*, the membrane spreading rapidly over the tonsils, soft palate, pharynx, and frequently invading to a greater or less degree the nasal fossæ.

I make this division also to draw attention to the question of diagnosis. It does not require a medical man to diagnose the severe cases, but are the mild ones true diphtheria? Many of these mild cases one is greatly tempted to call diphtheritic sore throat, a most evasive and unscientific term which I have never allowed myself to use. I believe diphtheria to be a specific disease having a specific cause, and that when that specific cause attacks a wound or new membrane successfully it produces diphtheria and nothing else. If there is an attenuated form of the virus producing a hybrid form of the disease I have no knowledge of it. I will illustrate what I mean by citing one series of cases only.

A father comes to my office with sore throat. The soft palate and pharynx are red and injected, and on the left tonsil is a

* Read before the Medico-Chirurgical Society of Montreal, Nov. 25th, 1887.

small white patch no larger than a pea. Pain in swallowing. Temperature 101.5°, headache, and accelerated pulse. No enlargement of glands of neck. I tell the man he has a simple inflammation of throat, and that it is not diphtheria. Sent him home and to bed. The next day temperature normal, and the third day he is out attending to business. Seven days after the infant child of a boarder in this man's house takes sick. Another doctor is called, who sends the case to hospital as one of diphtheria. In three days the child is reported well and ready to be discharged, but this child is not brought back to the house where it took sick. In three days more my first patient's child is found to have unmistakable diphtheria, and in a few days dies. Now did this father have diphtheria, and did the children contract the disease from him, or was his a simple sore throat, and did the other cases develop quite independently? You will readily see the responsibility the answer to this question throws upon the medical attendant. This is only one of a large number of groups that I might mention.

I find this autumn that cases of tonsillitis, with a few white spots here and there over the surface of the tonsils, which I have hitherto regarded and treated as cases of follicular tonsillitis, if neglected and allowed to go about, soon have a very severe form of diphtheria, frequently ending fatally. Are these cases of diphtheria from the first, or is the diphtheritic poison now so prevalent engrafted on these inflamed tonsils as a bed specially prepared to receive it? If the former, then I must confess I cannot diagnose follicular tonsillitis in its first stages. These cases occur suddenly, without a previous history of indisposition, are not accompanied by enlarged cervical glands, and have a temperature during the first twenty-four hours of 100° to 102° or 103°F. Is it true, as stated by Jacobi, that a locally injected new membrane confined to one tonsil is either traumatic or diphtheritic?

And just here I wish to draw attention to a statement of Prof. Jacobi (Pepper's System of Medicine) that one attack of diphtheria predisposes to another, and the oftener one has it the more likely are they to have it. I was taught the opposite of this,—

that when a man or child was said to have had diphtheria five or six times or more, that probably his attacks of diphtheria were only inflammations of the tonsils with a white exudation. My experience has corroborated that teaching, and in only three or four instances during the last ten years have I been satisfied that I have seen the disease recur in the same person. I cannot accept Prof. Jacobi's teaching on this point, and would like to hear the experience of the members on this question.

I have had two cases of suppression of urine. One of these cases I saw only in consultation, and the urine had not been examined. In my own case, owing to a misunderstanding of the nurse, I was unable to get a sample. In this case the last urine passed was said to have been of normal color. In both cases the children presented symptoms of uræmic poisoning. In neither case was there any puffing of the feet, hands or eyelids. I should like to hear from those who have been fortunate enough to obtain post-mortems in these cases concerning the condition of the kidneys. Were there any evidences of acute nephritis as described in books or not? Was the suppression due to vaso-motor paralysis and deficient blood-pressure? or to failure of the forces which keep the blood circulating? In both the cases I have mentioned death soon followed.

I have found the proportion of cases of laryngeal complication unusually small. I have seen during the past six weeks but two cases. One, a little girl of 8 years, had a slight sore throat, without any exudation in the pharynx or on the tonsils. I saw her twice; supposed it to be ordinary sore throat; she then appeared quite well. A week later I was called, and found laryngeal obstruction, which ended in seventy-two hours in the usual way. The second case, a child of 15 months, had well-marked pharyngeal diphtheria, and recovered. The house was thoroughly fumigated, and the child remained well and lively for a week, when suddenly laryngeal obstruction occurred, followed by death in thirty-six hours, fourteen hours after the insertion of a tube into the trachea. Has any member any experience with intubation of the larynx? Would prolonged enforced rest in bed have prevented the extension to the larynx in these cases?

I have had five cases of what I take to be purely nasal diphtheria. Four occurred in one family. In none of these cases was there any pharyngeal trouble at all. No membrane could be seen in the nose, but all these cases had for forty-eight hours a temperature of 102.5° to 104°, with an offensive purulent discharge from the anterior nares and frequent hemorrhages from the nose, recurring five or six times in the twenty-four hours, and moderate enlargement of the cervical glands. They are all recovering, and so far there have been no complications in any of them.

Another interesting group of cases which in my hands have invariably proved fatal, with one solitary exception. The group includes seven cases, and a description of one is a description of them all.

A child has pharyngeal and nasal diphtheria and recovers. The throat is clean, temperature and pulse normal. The mother at the next visit tells you the child has vomited ; you examine, and find temperature normal, but the pulse, which was yesterday 80, is 100 ; the next day 120 and weaker, and the heart gets weaker and faster in spite of absolute and enforced rest in the horizontal position and the use of cardiac tonics, until death takes place from cardiac failure.

Is the pathology of the failure of this heart muscle the same as in paralysis of the palate muscles and of the skeletal muscles? And only more disastrous in its results, because life must cease as soon as that muscle ceases to perform its functions. I take it that every one present is familiar with the literature of diphtheritic paralysis, and I hope some get more satisfaction from the discordant statements of various writers on that subject than I have been able to do.

Thus Buhl, Charcot and Vulpian are unanimous about an affection of the peripheric nerves and muscles. Oertel, Dejerine and Gaucher believe in a disease ef the spinal cord. Leyden describes a gray degeneration of the muscular tissue, which he believes to be truly inflammatory. In Leyden's cases the muscular nuclei were increased, became atrophied, and underwent fatty degeneration, giving rise thereby to extravasa-

tions, softening. dilatation and debility of the heart, with general debility and collapse, and explained the occurrence of vomiting by supposing a reflex action on other branches of the vagus.

Is this cardiac failure due to change, inflammatory or degenerative, or is the one followed by the other? Is it due to changes in the spinal cord, sympathetic nerves, or cardiac ganglia? Or is it brought about by a myocarditis or a fatty degeneration of the heart-muscle? It seems to me that this question must be answered before prescribing one of our most powerful drugs, and one which has invariably been ordered by those I have met in consultation in these cases, viz., strychnia. This drug affects paralyzed muscles before healthy ones. It is a stimulant. It increases the vascular supply to the diseased parts. If the disease is inflammatory, is strychnia the proper remedy to use? If the disease is one of atrophy and degeneration, certainly it is. In the only case that recovered under my observation, strychnia was given early and in large doses, and it was continued in smaller doses for six weeks. I think it would be interesting to have from Dr. Johnson and others a description of the changes found in the cord, muscle, and peripheral and central nerves and their coats in cases dying from rapid cardiac failure. Are they cases of cardiac paralysis, or of myocarditis, or of fatty degeneration of the heart, or of myocarditis followed by fatty degeneration?

My last question is: How long children and adults exposed to the contagion should be quarantined?

One child in a family of several has diphtheria, and recovers or perhaps dies. If recovery, all nasal-pharyngeal discharges has ceased. In either case the house is disinfected, we will suppose thoroughly. I will assume, as in many cases is the case, that the well children remained all the time at home, and that the father also remained at home to assist in nursing the sick one. Now how soon after the disinfection should the children be allowed to return to school and the father to his office or shop, as the case may be. I have made it an invariable rule not to grant certificates for fifteen days after the disinfection. I do this on the ground that cases are on record of children having been exposed to the contagion of diphtheria and only developed

the symptoms of the disease two weeks later—in one case fourteen days and eight hours after the exposure,—and that they *may* give the disease to others during the period of incubation. I do not think it necessary to quarantine adults as long, because they are very much less likely to contract the disease, and therefore less likely to endangers others they may be brought in contact with.

Now, as this bears upon the subject of the spread of the disease, it is of the utmost importance that the truth should be known. There is a great difference of opinion in this matter among practitioners at present. The principals of the common schools find that some doctors give certificates immediately after the house has been disinfected. Others wait two or three or more days, and but few insist upon a period of two weeks elapsing. It is desirable, for many evident reasons, that it would be to the credit of the profession to have some limit set that would be safe, and of course not longer than really necessary.

Is diphtheria a local or constitutional disease at first? I have no experience with diphtheria attacking wounds. Authors are as evasive and indefinite on this as on so many other points. An author will assert that diphtheria is a constitutional disease and the throat affection a local manifestation of it, and then in the next sentence say that children from three to nine months of age are less liable to it, because the acid secretions of a child's mouth wash off or sterilize the contagion, and that children with nasal and post-nasal catarrh and enlarged tonsils are predisposed to it. Why? I infer because these new membranes, not protected by epithelium, are more easily attacked by the diphtheritic poison. If so, in these cases at least, the disease must at first be a local disease, and then, secondarily, invade the body generally. A healthy nose and throat should thus be protective. Are they?

THE PRESENT STATE OF CARDIAC THERAPEUTICS.*

By James Stewart, M.D.,
Professor of Pharmacology and Therapeutics, McGill University.

The subject of cardiac therapeutics is one of great importance—of much more importance than is generally conceded to it by the ordinary text-books. During the past year or two quite a revolution has come over our ways of looking into the future physical life of patients suffering from many of the forms of organic heart disease. In fact, as yet, these views to which I refer have not by any means become general. These changes of opinion are of such paramount importance to the well-being and happiness of those committed to our care, that it is the bounden duty of every practitioner to study them seriously. The changes to which I refer consist in the much more favorable prognosis that is admissable in the great majority of cases.

Last year, at the meeting of the British Medical Association at Brighton, Sir Andrew Clarke created what might almost be called a sensation by giving the life history of a very large number of cases of organic disease of the heart which he had the opportunity of observing for very many years. The point made by Sir Andrew was this: that patients with organic heart disease lived much longer than they were supposed to do, and that the great majority of them were not only able to live, but also to work—to live with comfort and work with vigor.

No doubt a number of observers had pointed out before that cases of organic disease of the heart do frequently present themselves where the lesion had been in existence during a long lifetime without the patient's knowledge that there was anything seriously wrong. There is an important therapeutic lesson to be gathered from the history of a case of a man with one or more seriously damaged heart valves, who has lead a long and active life, throughout which he has been unconscious of anything wrong. Such a case teaches us the clinical history of the course of the disease uninfluenced by treatment and uninfluenced by the men-

* The Address on Therapeutics at the Twentieth Annual Meeting of the Canadian Medical Association, Hamilton, Sept. 1, 1887.

tal worry necessarily present where there is a consciousness of the presence of a grave organic lesion.

In dealing with this subject, I will first refer to the means that should be employed when we have to do with an acute inflammatory process in the endocardium, and (2) the treatment of the consequences that result from any chronic condition or state that gives rise to secondary changes (mechanical) in the heart; or, in other words, the treatment of threatened or actual loss of compensation.

Given a case of acute endocardial inflammation of, say, the aortic valves, which leads to deformity and, consequently, to incompetency of these valves, what are we to do to limit the extent and, consequently, the hurtfulness of such a lesion? What, in other words, can be done to prevent the connective tisssue formation assuming a great degree?

There is one great principle in the treatment of inflammatory affections which we must endeavor to carry out here, and that is

Rest.

Rest to the inflamed valves. Complete rest is, of course, impossible, but relative rest is to some extent obtainable. By giving the valves less to do we in a measure limit the extent and degree of the inflammatory process going on in them. The lower the blood pressure is, the less work will the valves have to do. The treatment, then, consists, in those measures which lower or depress the blood pressure. The first important point to attend to is absolute rest in bed. It is not necessary to insist on the importance of this—it is self-evident. We, however, may have a high blood pressure in spite of bodily quiet. The amount of fluid taken in should be limited, for it is a well recognized physiological fact that a *dry diet* is the most efficient means of lowering blood pressure. This has been conclusively proved by Kussmaul and Tenner's experiments. Of drugs, we have a number that markedly lower the blood-pressure, prominent among which are chloral and the nitrites. The judicious use of chloral in cases of endocarditis is, according to Fothergill, a very efficient way of limiting the sclerotic process. In the

nature of things it is impossible to estimate the value of this treatment in any individual case. It can only be expected that at best we can limit the diseased process, and to what extent this is accomplished in any case it is impossible to tell. No doubt blood-letting is a powerful way of lowering the blood-pressure, but its action is very temporary, and therefore not nearly so efficient as a strict adherence to a dry diet. On physiological grounds I should judge that the employment of frequent blistering over the cardiac region is injurious. At best, the action of blisters on the inflammatory process is very doubtful, and we know that such strong irritation of the skin does, reflexly, tend to keep up a high blood-pressure. The trifling amount of serum drained from the tissues may be eliminated.

The Treatment of Cardiac Disease during the period of Compensation.

When from any cause we have an obstruction to the outflow of blood from the heart, there is a damming up of the blood in the lesser circulation, which soon leads to changes in the vessels and in the heart itself. The changes in the vessels are obviated for the most part by the secondary compensatory changes in the heart. Compensation can never be perfect, still it is so perfect frequently that the patient is quite unconscious for many years of any circulatory disturbance or trouble whatever. We may say that practically we do meet with perfect compensation. As long as the heart is able to overcome the mechanical obstructions heaped up by disease, then so long will the patient remain well. In other words, while compensation is good all is well.

The treatment is now directed to the maintenance of this compensation. Sooner or later in many cases it shows signs of failing, the earliest indication being usually shortness of breath. What can we do to prevent compensation from failing, and when it threatens or has actually set in, what measures should we employ? The answers to these questions are all important.

Given a case of acute rheumatism, where there develops during its course an acute aortic valvulitis, with subsequent sufficient compensation to enable the patient to attend to the ordinary

duties of life, what advice are we to give? How should the patient live in order that he may keep up his cardiac compensation?

There are certain general therapeutic principles which it is important to bear in mind in all cases, no matter what the cause of the circulatory disturbance is. The first is the strengthening of the heart-muscle. It is important to remember that the heart is a muscle, and that its strength is increased by all those influences which increase other muscles. The usual advice given to patients affected with heart disease is to rest as much as possible so as to leave but as little work as possible for the heart to do. Recently Oertel of Munich has practised an entirely different method of dealing with these cases. His method of treating these cases is just now, in Germany, attracting very marked attention, and are very favorably received. Leyden, at the late meeting of the Society of Physicians, considered Oertel's treatment as a distinct advance, and as involving a distinct therapeutic principle. I will endeavor, briefly, to lay before you Oertel's method of keeping up compensation or of averting its loss when thus threatened. He maintains that exercise is the means we have of strengthening the heart muscle. He advises walking—at first on the level ground and afterwards hill climbing. He counsels his patients to take as much exercise as possible. The patient should walk until violent palpitation is brought on, and then he is required to stand still till it has abated, and until the shortness of breath is satisfied by voluntary, long, deep inspirations. He keeps not only patients with sufficient compensation, but those with insufficient compensation, at this exercise, and repeats it after longer or shorter intervals of time, according to necessity.

A second condition that he lays stress on is the keeping up of a good state of nutrition by a diet rich in albumen, so that the tissues during work may be replaced, and that sufficient material may be furnished for the formation of new tissue elements, especially for the muscular hypertrophy. The food, then, should be one especially rich in nitrogenous elements—a meat diet in the main, the fat and carbohydrates being only allowed in limited quantities.

Oertel further strongly insists on the regulation of the amount of fluid. When there is excess of fluid, then we are apt to have blood stasis with all its consequences ; the veins become over-filled and the arteries less full. The deleterious influence of this stasis is especially noticeable in the heart itself from over-filling of the coronary veins, the heart-muscle in consequence directly suffering. If there is an excess of fluid in the body already, then it should be got rid of. The skin should be made to act freely, and one of the best means we have for this purpose is exercise. It is only when diaphoresis is not obtainable by exercise that we should resort to other measures, as hot-air baths, Turkish baths, and pilocarpine. The importance of regulating the body fluid is at once apparent when we remember that the venous system is always over-full ; no matter how perfect a compensation may be, it is never sufficient to maintain the normal relations between the arterial and venous systems. Oertel lays great stress on the importance of preventing fat formation, especially in cases after the restoration of a previous loss of compensation. Owing to the incomplete filling of the arteries and the over-fullness of the veins there is of necessity incomplete oxidation, which leads to the deposition of fat. This is especially marked in those who are prone to put on fat and those who partake freely of carbohydrates. The heart suffers directly as well as indirectly. Owing to the coronary arteries being insufficiently filled, and owing to the lack of oxygen, the heart fails to perform its work efficiently, and in consequence we have fatty degeneration of its fibres in addition to fatty deposition on its surface and fatty intermuscular infiltration. This further enfeebles its action. It follows, therefore, that we should constantly guard against all those influences which tend to bring about this enfeebling power. The combustion of fat already in the body must be promoted, and the supply of fat and carbohydrates in the food must be as small as possible.

Now the means best adapted to promote the combustion of fat are those which I have already alluded to for strengthening the heart-muscles and regulating the quantity of fluid in the body. In addition to ordinary exercise, Oertel recommends the under-

taking two or three times a year of mountain tours. This difficult exercise, with the increased sweating attending on it, the diminution of the fluid supply and the use of a more albuminous diet will soon reduce any fat which has accumulated. The increased vigor in consequence given to the heart and the removal of obstruction to its work will soon show itself in the restoration of compensation, and by careful living afterwards, according to the plan sketched, it is possible, so it is claimed, for a patient to maintain his original state (dating from the early compensation) for very many years.

Such, in brief, is the method proposed and successfully practised by Oertel in the management of the retention of compensation and its restoration when lost. I freely admit that I have given but a very imperfect outline of it. The subject is one of such importance that to do it full justice it would require a treatise. Great credit is due to Oertel for the elaborate, scientific, and very painstaking manner in which he has worked out this whole subject. In his work he gives the history of a case that he carefully treated and closely observed for nine years.

Many years ago, Stokes of Dublin recommended a somewhat similar treatment, but in spite of his great advocacy it fell into disuse, even if it was ever practised to any extent.

At the recent meeting of German physicians a paper was read by Franz with the title of "*Rest or Work in Heart Disease.*" From an extensive experience he has come to the conclusion that in chronic cases active but careful exercise is conducive to the strengthening and slowing of the heart's action. He pointed how damaging it is to the circulation to have a dilated heart beating quickly and incompletely. The stretched ventricle is never completely empty, so that finally it looses its elasticity, and owing to its almost constant working it soon degenerates. Now here, if we bring about a complete emptying, we give the ventricle rest and in consequence strength. Franz claims that this can be completely and efficiently effected by exercise—more completely and efficiently than by any other known means. We have, he says, in exercise a means more powerful and safer than digitalis. He further claims that the improvement is more

lasting than that effected by other means—that the work of the heart is lessened by the disappearance of the stasis in the venous system, and the nutrition of the heart is vastly improved through the deeper inspirations making the blood richer in oxygen. He advises that in cases where there is good compensation already, that in order to maintain it ordinary gymnastics are sufficient. He lays great stress, however, on the possibility, even probability of this being overdone, and he insists that every exertion should be followed by a period of rest. Where compensation is, however, lost, the greatest care must be exercised before beginning active exercise ; the nature and the amount should be strictly laid down. Before beginning mountain climbing, baths, with a course of Swedish gymnastics, are advisable.

Franz believes that there is no danger whatever in patients with heart disease exercising so long as the palpitation induced by this work is quickly relieved by taking forced deep inspirations. The deep inspirations diminishes quickly the increased tension that is brought about in the pulmonary vessels.

Schott of Nauheim, who took part in the discussion which followed Franz's paper, contended that mountain climbing was only useful in a small number of cases, and that he had seen much harm follow its practise. He, however, strongly approves of exercise in a gentle way for the heart muscle. He therefore, although opposed to the extreme views of Oertel, is satisfied that much good can be effected in those cases with exercise when practised judiciously. Both he and Franz have seen a number of cases where mountain climbing has done irreparable damage to the already overtaxed heart when practised by the patients without first consulting a physician.

It will be seen that we have the evidence of several competent authorities that in exercise we have a ready and all-powerful means of effecting good when used properly, but an agent powerful for evil when injudiciously employed. Time alone will enable us, however, to determine to what extent we can rely on this method of obviating the effects of a damaged compensation. It is a subject of deep and far-reaching importance, and will require time, patience, and sound physiological knowledge to determine

when it should be recommended or whether it should be recommended at all or not.

It is no doubt more adapted for cases of commencing fatty heart and for cases of threatened heart failure from deformity of the chest or disease of the lungs. That it is applicable for cases of threatened heart failure, no matter what the cause may be, is contended for by its great promoter—Oertel. It will make us all think a little more in the future when we are face to face with the question. Exercise or Rest, which is it to be?

There is a time in cases of loss of compensation that exercise is no longer possible, and where we have to resort to medicinal agents. Of all these agents, none, on the whole, is comparable to digitalis. The usefulness of digitalis in cases of heart failure is great indeed. I would not occupy the time of this Association in entering into any details as to its mode of action and employment were not I firmly convinced that there is a very imperfect knowledge among many practitioners of how and when digitalis should be used. How universal is the practice to give this agent when a cardiac lesion is diagnosed without any reference to the nature and attending consequences of such a lesion. The great use of digitalis is in cases where there is commencing or even very advanced loss of compensation. When compensation fails we have stasis, as evidenced by breathlessness, quickened pulse, œdema of the ankles, diminished secretion of urine. The first marked effect of heart failure is diminution in the aortic pressure, as shown in the diminution in the amount of urine excreted.

The essential therapeutic action of digitalis consists in its power of raising the blood-pressure. The slowing of the pulse, upon which so much stress is laid, is, according to Schmiedeberg, a result of the high pressure. The results and symptoms of loss of compensation in cardiac disease are mainly, as I have said, due to deficiency of blood in the arterial vessels and to a too low a pressure in them. If the blood pressure be raised, the secretion of urine increases, the effused fluids are absorbed from the cavities and tissues of the body, and the respiratory distress disappears. So long as digitalis causes an increase in

the quantity of urine, so long is it safe to proceed with its administration. We know that digitalis has no influence in increasing the quantity of urine in health or in disease where the blood pressure is high. Its diuretic action is entirely dependent on its power of raising an abnormally low blood pressure. In order to bring about the diuretic effect of digitalis it is necessary to give it in full doses. The effect of small or even moderate doses is to increase the general pressure, including the pressure in the arterioles of the kidneys. While the pressure throughout is high, there is no diurectic action manifest. After a certain quantity has been administered, the increased pressure in the kidneys gives way, with the result of a rapid and often great increase in the quantity of urine. The increased diuresis may continue several days. If the drug is still continued, there is general fall in the blood pressure, and in consequence the diuretic action soon ceases. When the urine, after being increased in quantity by digitalis, considerably diminishes, then the drug should be at once withdrawn. This decrease is a warning which should never be neglected. If it is, the ventricular contractions becomes weaker and weaker, until finally we only hear a "toneless tic-tac." When this stage is reached, it requires but little more digitalis to bring about a stand-still of the heart in contraction. Up to the production of decrease in the quantity of urine, nothing but good is observable.

Now as to the quantity of digitalis necessary to bring about diuresis there is great variation. Different persons vary greatly as to their susceptibility to its action. Forty minims of the tincture four times daily for three days will in the great majority of cases bring about this diminution. Sometimes it is necessary to give as much as half an ounce daily in divided doses before the result is attained. Cases of dangerous heart failure should always be treated according to the method sketched. It is very unscientific to expect the best results from any other way. No doubt 10 or 15 minims of the tincture several times daily will to some extent relieve an overtaxed ventricle; even rest in bed without any medication will at times prolong life; but the best results are only obtainable when absolute rest in bed is combined with digitalis in full doses.

There is a large group of agents which belong to the digitalin group which have lately attracted a great deal of attention. There is Scillain, which is the active principle of squills; Helleborein, which occurs in the various species of hellebore; Oleandrin, found in conjunction with digitalin in the common oleander; there is Apocynin, contained in Canadian hemp; Adonidin, found in the spring adonis; Convallamarin, in the lily of the valley; and lastly, Strophantin. Now all these agents possess in common the property of slowing the heart and increasing the blood pressure. Squills has been used empirically for a long time as a diuretic and heart tonic. It enters into the composition of the still famous Baly pill, the other ingredients being digitalis and mercury. This is a remarkable combination, built entirely on empiricism long before the science of pharmacology was even dreamt of. We have here a combination containing two heart tonics, digitalis and squills, and a direct diuretic, mercury. It is only a very recent discovery that mercurials, especially calomel, have a direct diuretic action. It is a proof, if one were needed, how foolish it is to neglect the laborious acquired knowledge of our forefathers, call it empiricism if we like. Of the other agents mentioned, only strophantin and adonidin need be referred to; the remainder we know little or nothing outside of the laboratory.

Strophantin, introduced by Professor Fraser of Edinburgh, has now been in use about two years, and although all the reports are not confirmatory of a very marked tonic action, still we have sufficient evidence to enable us to say that it is a very valuable addition to the list of cardiac tonics. It has been found well adapted for cases of cardiac failure depending on valvular disease. Pins of Vienna, who has given us a report of its action, claims a high place for it, even suggesting the probability of its displacing digitalis. He found the weak, rapid and irregular pulse of mitral disease become slow and powerful. It acted as a prompt diuretic, being quicker in its action than digitalis. It is worthy of a thorough test, but, as yet, we are not sufficiently acquainted with its mode of action to determine the exact place it will hold in cardiac therapeutics.

A few cases have been reported where adonidine has had a very marked action in toning up a failing heart, even when digitalis is alleged to have failed; but in all the reports that I have examined, the digitalis was not administered with that freedom that is necessary in order to obtain its full effects. Still there is sufficient evidence to prove that in adonidine we have a very powerful cardiac tonic and vascular diuretic.

I will now conclude what I have to say by a few words on

Caffeine in Cardiac Therapeutics.

This is a most valuable agent, and deserves a much more extended use than it has up to the present time received. In order, however, to obtain its full action, it is necessary to give it in much larger doses than is usually prescribed, 10 to 15 gr. in place of 2 or 3 gr. The best salt to prescribe is the natro-salicylate of caffeine. The sodium salicylate dissolves it in chemically equivalent quantities, so that the natro-salicylate of caffeine contains 50 per cent. of caffeine.

Caffeine quickly raises the blood pressure by a direct action on the vaso-motor centre. It has also a direct diuretic action. This, I think, has been conclusively proved by the very recent researches of von Schröder of Strassburg. He has shown that it has a direct stimulating influence on the epithelium of the convoluted tubules, and probably also on the epithelium of the glomeruli. It is on this direct diuretic action that the advantages of caffeine depend. Digitalis only acts as a diuretic through increasing the blood pressure, and on this account it takes from three to four days before its action is manifest. Caffeine, on the other hand, will induce a diuresis within six hours. In cases of paresis of the cardiac muscle, time is all important; before the action of digitalis can be induced precious time is lost. This is the great drawback to the use of digitalis—*i.e.*, time consumed before its action is manifest. Our present knowledge of caffeine may be summed up as follows: It is of marked use in the same class of cases as digitalis. It differs, however, from this drug in the following particulars. It is less powerful as a cardiac tonic, but is a more powerful and prompt diuretic, and for this

reason it gives relieve quicker from all the troublesome subjective symptoms of cardiac failure. By combining the power of digitalis with the rapidity of action of caffeine, we may obtain the advantages of both drugs, with little of the disadvantages of either.

There are many more therapeutic resources at our command besides those mentioned. Time will prevent me from referring to them. The wonderful powers of arsenic in painful conditions of the heart, the use of opium alone or with digitalis, the marked beneficial actions of the nitrites, etc., are all means at our command of relieving some of the most distressing states that afflict mankind. Much as we can do at present, there is every reason to hope that in the near future we will be able to do much more.

NOTES ON ANTIPYRIN AND ANTIFEBRIN.

By Ed. Evans, M.D., Seaforth, Ont.

The following notes may prove of interest, as illustrating not only the anodyne powers of antipyrin and antifebrin in certain painful affections, but also their *curative* powers.

It is said that neuralgic affections attacking persons in the period of declining bodily vigor are often severe, lingering, and rebellious to treatment. The following cases occurring at this period yielded readily to one or other of the above drugs:—

Case I.—J. E., farmer, aged 65; had worked hard in harvest field and felt exhausted; complained of pain in right hypochondrium and scanty micturition. Was seen by a doctor, who prescribed rest, a purge, and a mild diuretic mixture. Two days later I found him still suffering severely with pain, but in addition, almost total suppression of urine and frequent desire to micturate. He was drowsy, had headache and vomiting. Pulse 115; temperature 102.5°. Drew off one and a half ounces of urine, which was dark; great excess of urates; specific gravity 1.035; only a trace of albumen; no blood or tube casts. Gave him hot bath and pulv. Doveri gr. x and Pilocarp. gr. $\frac{1}{6}$ (bowels were very free), and poulticed the loins. Next day, headache gone, vomiting ceased, no frequency of micturition, pulse and

temperature normal; urine passes in small quantity; no albumen. In three days he was well again, except being very weak. The pain in side persisted, however, and was very severe. It was confined to the ninth and tenth intercostal spaces (tender points present). Blisters, hypodermics of morphia and atropia, and the use of arsenic failed to give more than temporary relief and he had to take opium constantly for a month to obtain sleep. I then tried Antipyrin gr. v twice daily (stopping all other treatment). He had immediate relief, and in ten days was entirely well.

CASE II.—T. M., aged 24, soldier, suffering from intercostal neuralgia (ninth interspace, right side). Pain very severe, intermittent, tender points, ten days' duration. A history of a similar attack fifteen years ago, after severe marching. No rheumatism; no syphilis. A hypodermic (gr. viii) of antipyrin gave immediate relief. I prescribed antifebrin gr. vi twice a day, and liq. arsen. ♏ iii t.i.d. He suffered no pain since, and is now well.

CASE III.—Mrs. H., aged 48, dorso-lumbar neuralgia; large, fat woman; rheumatic history. Had ill-defined pains in back and hips for some time, when, after "catching cold," she was suddenly seized with severe pain in lumbar region, which confined her to bed. Pain much increased by stirring, and radiates over buttocks and into hypogastric region. Tender points in lumbar region, over centre of crista ilii and in hypogastrium. A hypodermatic injection of gr. x of antipyrin stopped pain, and in ten minutes she could move freely (in bed) without pain. I left four powders of gr. v antipyrin, and she has not suffered from pain since then.

I have also used these drugs for the pains of locomotor ataxia (one dose of gr. x antipyrin stopped the gastric pain of ataxia now for three months), cervico-brachial neuralgia, painful affections of the fifth nerve, four cases migraine, dysmenorrhœa, gastralgia, intestinal colic, etc. In fact in almost all cases where formerly morphia was used to relieve pain.

So far I have found antipyrin fail in one case of migraine

and in a case of hysterical pain. It seems to possess the advantage over morphia of not deranging the digestion or producing other untoward effects. Smaller doses than those generally prescribed will, I think, be found equally effective, and then there is little danger of excessive sweating, vomiting or collapse. Antifebrin seems equally as effective as antipyrin to relieve pain. It is about four times as cheap, and the dose is smaller; but it is not so soluble, and is not therefore so suitable for hypodermatic use.

SOME LABORATORY NOTES ON PAPOID DIGESTION.

By R. F. Ruttan, B.A., M.D.,
Lecturer on Chemistry, McGill University.

For some time it has been known that the stems, leaves and unripe fruit of a plant called *Carica papaya* contain a ferment capable of digesting proteids. This plant is found in the East and West Indies and in South America. The natives of many localities where this plant is indigenous make a practice of rolling their fresh meat in caraca leaves to make it tender and easier of digestion. From the juice of this plant Dr. Finkler of Bonn University has made an albuminous preparation containing the ferment, which is now attracting much attention under the name of Papoid.

Wurtz, however, was the first to isolate the ferment, to which he gave the name of *papaïn*, and ascribed to it certain definite and characteristic reactions.

About 90 per cent. of commercial papoid is soluble in water; the residue consists chiefly of coagulated albumen. The solution contains globulin, but it is highly probable that the ferment is quite independent of this albuminoid, as the globulin may be precipitated, leaving in the solution a large part, if not all, of the ferment.

As papoid contains the ferment papaïn and also some albumen on which it may act, care must be taken to keep it dry. The unsatisfactory results obtained by some in its use are no doubt due to previous exposure of the sample to moisture. A solution

of papoid will always give the peptone reaction on standing a few hours.

The greatest differences of opinion have been expressed by different experimenters as to the conditions most favorable to the activity of papoid. Albrecht (*Schmidt's Jhrbuch*, Bd. 190) states that papaïn digestion is hastened by the presence of hydrochloric acid. Würtz, on the other hand, shows that papaïn digestion is essentially a neutral one, which is most rapid and thorough at a temperature of about 40°. Rossbach has recorded a few experiments—at variance with most others—in which he claims that this ferment is not more active in a warm solution than in a cold one. As papaïn is a vegetable product, this seems highly probable, but the careful experiments of Dr. Sidney Martin fully prove that a moderate degree of heat increases the activity of this ferment just as it does that of any other. The fact remains, however, that papaïn has powerful digesting action at ordinary temperatures—50°–70°F.

Dr. Martin has published at some length a series of carefully made experiments on the nature and action of papaïn in the *Journal of Physiology*, Vols. V and VI, and the results of the following experiments, where they run parallel with his, closely correspond with the results obtained by this author.

In each of the following experiments the digestion mixture consisted of 1 gramme of pure dry fibrin in powder, which was boiled in 20 cc. of water and allowed to stand for 12 hours to soften. To this was added 10 cc. of a 1 per cent. solution of the ferment to be used and standard acid or alkali to required strength, making the whole mixture up to 50 cc. The digestions were carried on in an incubator kept at a constant temperature of 37–38°C., and at the end of a variable time the undissolved fibrin was filtered off on a small, tared filter, and after thorough washing was dried at 100° to constant weight. Thus the undigested fibrin could be weighed in the same condition as before it was submitted to the action of the ferment, and any experimental error caused by the presence of a variable quantity of moisture was eliminated. It is not easy to understand how relative digestion can be accurately determined by those who experi-

ment with proteids of such indefinite and variable composition as "hard-boiled egg," "fresh meat," and "freshly coagulated albumen"; yet many of the published results on papoid digestion have been based on experiments in which their substances were weighed before and after the action of the ferment.

EXPERIMENT I.—Digestion mixture consisted of 1 gramme fibrin, 10 cc. of a 1 per cent. solution of papoid or pepsin in a neutral medium; time 20 hours; temperature 37–38°C. Experiment done in duplicate:

	Undigested fibrin.	*Per cent. digested.*
Papoid (*a*)	.187 grm.	81.3 per cent.
Papoid (*b*)	.13 "	87.0 "
Pepsin (*a*)	.903 "	9.7 "
Pepsin (*b*)	.883 "	11.7 "

EXPERIMENT II.—Conditions the same as in I, but in an acid medium of .3 per cent. hydrochloric acid; time 20 hours; temperature 37–38°C.:

	Undigested fibrin.	*Per cent digested.*
Papoid (*a*)	.972 grm.	2.8 per cent.
Papoid (*b*)	.923 "	7.7 "
Pepsin (*a*)	.08 "	92.0 "
Pepsin (*b*)	.04 "	96.0 "

EXPERIMENT III.—Pepsin in .3 per cent. hydrochloric acid and papoid in a neutral medium; other conditions as before; time 15 hours:

	Undigested fibrin.	*Per cent. digested.*
Papoid (*a*)	.378 grm.	62.2 per cent.
Papoid (*b*)	.322 "	67.8 "
Pepsin (*a*)	.232 "	76.8 "
Pepsin (*b*)	.281 "	71.9 "

EXPERIMENT IV.—Papoid and pancreatin in 1 per cent. solution of sodium carbonate; other conditions as before; time 18 hours:

	Undigested fibrin.	*Per cent. digested.*
Papoid.....	.37 grm.	63 per cent.
Pancreatine.....	.02 "	98 "

EXPERIMENT V.—Papoid in .2 per cent. solution of sodium carbonate and pancreatin in a 1 per cent. solution; other conditions as in Experiment I; time 20 hours:

	Undigested fibrin.	*Per cent. digested.*
Papoid.....	.131 grm.	86.9 per cent.
Pancreatine.....	.122 "	87.8 "

EXPERIMENT VI.—In order to determine the conditions under which papoid is most active, its action on 1 grm. of fibrin in the presence of different quantities of alkali was estimated with the following result; time 18 hours:

	Undigested fibrin.	*Per cent. digested.*
Papoid + 1 per ct. Na_2CO_3..	.44 grm.	56 per cent.
+ 5 "	.28 "	72 "
+ 2 "	.12 "	88 "
in neutral solution..	.18 "	82 "
In 3 p.c. hydrochloric acid.	.96 "	4 "

EXPERIMENT VII.—The action of papoid in neutral solution on diphtheritic membrane compared with that of pepsin:

(*a*) Papoid digested completely .3 grm. of diphtheritic membrane in 20 hours.

Pepsin had only partially dissolved the same weight of membrane at the end of 36 hours.

(*b*) Papoid dissolved completely .5 grm. of membrane in 23 24 hours.

In these experiments a 5 per cent. solution of papoid or of pepsin was added to the undivided membrane, and the whole kept wet during the time specified. The membrane was reduced to a clear fluid jelly by papoid, but only partially attacked by the pepsin under the same conditions.

EXPERIMENT VIII.—Does acid destroy the proteolytic action of papoid as it does that of trypsin?

To ascertain this, .2 grm. of papoid was added to 1 gramme of fibrin in a .3 per cent. solution of hydrochloric acid in duplicate. Both mixtures were made up to 50 cc. and left in the incubator for three hours. At that time one mixture was estimated and the other made faintly alkaline with sodium carbonate and left in the incubator for 13 hours longer.

The acid mixture showed no digestion,—no reaction indicating peptones could be obtained.

At the end of 13 hours the other mixture gave a residue of .23 grm., showing that 77 per cent. had been digested.

The proteolytic ferment of papoid is therefore not destroyed by being kept in an acid medium for three hours at blood heat; its action is only suspended.

The conclusions to be drawn from these experiments are obvious. Papoid evidently contains a powerful proteolytic ferment which resembles trypsin both in the conditions under which it is most active and in its mode of digestion. It corrodes the fibrin, dissolving each piece away from the surface to the centre, and does not gelatinize the whole mass like pepsin. Moreover, one can readily obtain leucin in the products of digestion. Tyrosin could not be obtained by the writer, but its presence was determined by Dr. Martin, who worked with larger digestion mixtures.

Papoid, as shown in Experiment II, is quite inactive in small quantities in an acid medium of .3 per cent. hydrochloric acid. A certain amount—3 to 7 per cent. of the fibrin—was dissolved by it, but no true digestion occurred, as peptones in any quantity were absent.

The results of Experiment VIII, however, show that although it is inactive in acid its functions are only suspended, the ferment is not killed. This is interesting, in view of the frequent use of papoid for treatment of dyspepsia. If the stomach be normally acid, its activity will probably be suspended entirely; if, however, the acidity be very slight, papoid will probably act. Its greatest action, however, takes place in the small intestines, where the medium is alkaline or neutral. The ferment is most energetic in a faintly alkaline medium, about .2 per cent. of sodium carbonate.

Comparing its digestive power with that of pepsin and pancreatin, Experiment I shows that in a neutral medium its activity is far greater than pepsin, but it is inferior to it in an acid medium. Under the conditions that have been found to be most favorable to their respective functional activity, papoid is but little, if at all, inferior to either pepsin or pancreatin.

Papoid is especially useful for removal of diphtheritic membrane. The conditions present in the pharynx are just those which retard the action of pepsin and pancreatin, but do not influence papoid. The medium in which it is required to act is practically a neutral one and the temperature low, there is present, besides, a large excess of the products of digestion which does not affect papoid—indeed it is most energetic in a concentrated medium. Moreover, papoid has been shown clinically to lesssen very greatly the disagreeable fœtor of the disease. Painting on a 5 per cent. solution, freshly made, every two or three hours has been found to give the best results: the fœtor disappears in a few hours and the membrane in from 12–18 hours becomes thin and glairy.

It would seem to be especially indicated in these forms of dyspepsia in which peptic digestion is greatly impaired and where the secretion of gastric juice is very weak.

Papoid, therefore, promises to be a powerful auxiliary in combatting those two great diseases—diphtheria and dyspepsia.

Correspondence.

THREE CASES OF SCARLET FEVER. (?)

To the Editors of THE CANADA MEDICAL & SURGICAL JOURNAL.

SIRS:—The report of the following cases may prove of sufficient interest for insertion in your JOURNAL. The notes were taken during my attendance:—

CASE I.—On Nov. 16th, 1887, I was called to see D.'s children. History as follows: On the 13th (Nov.) the youngest, 1½ years old, was taken ill with what the parents thought was a "cold." She was flushed and feverish, had a little cough, free mucous discharge from nostrils, and slight sore throat; loss of appetite, vomited once, bowels regular. Next day a very slightly marked rash was noticed on face, neck, front of body, arms and legs; this was observed to disappear at times, to return again; was not itchy. On 15th condition remained unchanged. When seen on 16th the little patient was said to be better, appetite was returning, was not so feverish, had less "cold," and rash

was less distinct. Temperature 100½°; pulse 116. A faint, dull red, slightly but distinctly papular eruption was seen on anterior parts of body; color disappears momentarily on pressure; intervening skin between red points normal in appearance. Tonsils and fauces are a little swollen and injected, no exudation; tongue heavily coated with white fur. There is free mucous discharge from both nostrils; conjunctivæ not injected; slight cough. Lungs normal. Administered a few Hyd. c. Cret. powders. Patient continued to improve, and in a few days was quite well again, the coryza being the last symptom to disappear.

Case II.—On the night of the 14th (the day after the first was attacked) another little girl, aged 4 years, was attacked in precisely the same manner, but less severely. Next afternoon a very slight eruption appeared in her case. She was feverish, had a "cold" and slight sore throat, but no cough. On 16th, when seen, was said to be all right again. Temperature normal; pulse 96. A few points of the fading eruption were seen on the anterior surface of arms only, and corresponded exactly to those in the preceding case, but were less marked. There was slight congestion of fauces, tongue furred white, slight coryza, and poor appetite. Gave Hyd. c. Cret. and aperient; symptoms all disappeared during the day.

Case III.—On the evening of the 15th, shortly after returning from school, a third little girl, aged 6 years, was seized with a distinct chill, followed by fever, headache, vomiting, epigastric pain, sore throat and cough; passed a restless night, with frequent vomiting. When seen on morning of 16th, patient is in bed; complains of severe frontal headache and sore throat, swallowing is painful and appetite is lost, vomits frequently with much retching, has pain and tenderness in epigastrium, bowels regular; slight cough, no thoracic pain, no sneezing or coryza; is restless, cheek flushed, no conjunctival injection, skin hot and dry; on face, forearms and upper part of chest a few fine, pale red points are seen, which readily disappear on pressure; intervening skin normal. Temperature 102½°; pulse 130; respirations 24. Tongue coated white, considerable injection of fauces

not very bright in color, tonsils swollen, with a little mucus collected on surface, which is easily detached. Glands beneath angles of jaws enlarged and tender. Heart and lungs normal. Gave Bismuth Trisnit. with minute doses of calomel and opium, and an aperient; Tr. Ferri Mur. and Pot. Chlor. to throat; diet of milk and lime water. 17*th.*—Patient was delirious and restless through the night; complains of severe frontal headache and pain in epigastrium; throat very sore, tonsils more swollen, glands beneath jaws more swollen, hard and very tender. Vomiting has ceased and bowels were freely moved. The eruption to-day is fairly well marked all over, is not scarlet in color; is punctate and slightly papular; all spots are about equal in size, as large as a small pin-head; intervening skin everywhere normal; temperature 104°; pulse 140; respirations 26. Lungs normal. Urine contains no albumen or casts. 18*th.*—Is better, fairly good night; all symptoms relieved; eruption disappearing where first seen; temperature 102°, pulse 116; urine free from albumen. 19*th.*—Much better in all respects; temperature 100°, pulse 102; eruption fading all over to pale red; distinct firm, branny scales are seen where eruption first appeared. From this date convalescence was rapid and uninterrupted, and by the end of a week all appreciable desquamation had ceased.

These cases are of interest to me, chiefly in the matter of diagnosis. No source of infection could be ascertained; no other cases of scarlet fever have occurred before or since anywhere in the neighborhood, and their little sister 3 years of age in the same house escaped the disease, although she was with the others all through the attack. None of the children had any eruptive disease before. All recovered rapidly and perfectly without any complication. The absence of known source of infection, the mild and transient character of the disease as it manifested itself in the first two cases, and the peculiar character of the eruption in all, enabled me on the first day I saw them to make the diagnosis of—" ?"—while the evidently infectious character of the disease, its course in the last case, and the desquamation which occurred, though but to a slight extent, in all, led me to look upon them as cases of scarlet fever; anoma-

lous cases to me, though, for I must admit that in my short experience I have never seen cases of scarlet fever in which the eruption presented the peculiar characters which existed in these three cases.

I shall be pleased to read any remarks anyone may offer concerning the above cases.

E. G. Wood, M.D.

Mitchell, Jan. 18, 1888.

Reviews and Notices of Books.

The Elements of Chemistry. A Text-book for Beginners.—By Ira Remsen, Professor of Chemistry in the Johns-Hopkins University. Macmillan & Co., London and New York. 1887.

Says the writer of this book in his preface: "In the opinion of the author, a rational course in chemistry, whether for younger or older pupils, is something more than a statement of facts of more or less importance; a lot of experiments of more or less beauty; a lot of rules devised for the purpose of enabling the pupil to tell what things are made of. If the course does not to some extent help the pupil to think, it does not deserve to be called rational. Not only must the pupil perform experiments, but he must know why he performs them and what they teach." Would that every teacher of science believed this with all his heart and acted upon such a conviction. If so, the intellectual fabric resulting from college study would soon be of a higher quality.

From an intimate personal knowledge of Professor Remsen's methods of teaching and the character of his lectures, we have no hesitation in placing him in the very front rank of the teachers of science in America or in the world. He is an example of that rare combination of the clear, interesting and inspiring lecturer with the genuine educator. He makes sure that his pearls are not cast before swine. He ascertains that his pupils have really digested what is set before them before proceeding further, and if they have not, meditation and intellectual fasting (from new *facts*) are prescribed. The only proper person, as a rule, to

write a text-book is the man who is both an investigator and a successful teacher. The author of this book being both, it is not surprising that by common consent there is no series of works on chemistry in the English language comparable to those Prof. Remsen has given to students within the past few years, to which this, the most elementary one of the whole, is no exception. We have only words of praise for this valuable little work, and can on conviction recommend it to the medical student or any other who would learn chemistry according to the principles enumerated by its author in the extract quoted above.

A Course of Quantitative Analysis for Students.—By W. N. HARTLEY, F.R.S., Professor of Chemistry and of Applied Chemistry, Royal College of Science, Dublin. Macmillan & Co., London and New York. 1887.

The methods of analysis detailed in this book are those the author has found useful and accurate, as tested in his own laboratory. They are not presented as wholly or in great part original, but as mostly selected from the larger books on this subject. However, the more extensive works, when put into the hands of the beginner, are apt to prove a hindrance as well as a help, so that such a book as Professor Hartley's seems to be called for. Methods by weighing and titration are both treated, and accompanied by examples illustrating the necessary calculations, a most excellent feature in a work intended for the beginner. The print is large and clear, and a few cuts have been introduced. The book is a good one.

Operative Surgery on the Cadaver.—By JASPER JEWETT GARMANY, A.M., M.D., F.R.C.S. Montreal: Dawson Brothers. 150 pp.

This little work on operative surgery is intended for the use of students. The first chapter describes specula, catheters, sounds, etc.; the second treats of paracentesis of the various cavities; whilst the third chapter describes the various sutures, knots, and method of drainage. It also tells how to hold a scalpel and to make incisions. The other eleven chapters treat

of the operations performed on various parts of the body. The book will prove very useful to students, but in our opinion is much too condensed. The descriptions of the newer operations, such as those on the brain, kidney, etc., are very sketchy, and, in fact, this is the fault of the whole book. It covers an enormous amount of ground, but the description of each operation is so short that although a surgeon who is well up in his subject could follow easily, a student would desire much more detail. The book is well up to the times, neatly printed, but almost entirely devoid of illustrations: two diagrams of the arterial supply of the body being the only attempt in this line. In a second edition we should advise more illustrations and fuller descriptions, especially of the more common operations. The book will prove a helpful companion to students who are taking a course in operative surgery on the cadaver.

Text-Book of Therapeutics and Materia Medica. Intended for the Use of Students and Practitioners.—By ROBERT T. EDES, A.B., M.D., Late Professor of Materia Medica and Jackson Professor of Clinical Medicine in Harvard University. Philadelphia: Lea Brothers & Co.

Of the making of books in materia medica and therapeutics there is truly no end. Not a year passes but what several new works or new editions of old works are brought out. This is, in our opinion, far from being the evil that it is commonly supposed to be. It is, at any rate, a very promising state of matters for the future of pharmacology and therapeutics.

Dr. Edes' work is the latest addition to our therapeutical literature. We are pleased to see him describe drugs under the only rational system of classification—the physiological. This method presents such obvious advantages to both the student and practitioner that it is really surprising how any other system can be followed or advocated. The so-called natural system of Buchheim, although suitable for the pharmacological laboratory, is not applicable to therapeutics. The consideration of drugs alphabetically is so crude that it admits of no defence. Dr. Edes does not enter very fully into the pharmacology of the different

drugs. He contents himself for the most part with a simple statement of the leading actions. There is a lack of method, too, in the description of these actions.

The work on the whole is fairly satisfactory. It is, however, far from being the best work on Pharmacology and Therapeutics.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, Nov. 11th, 1887.

WM. GARDNER, M.D., 1ST VICE-PRESIDENT, IN THE CHAIR.

Treatment of Ulcers after Thiersch's Method.—DR. BELL read a paper on the treatment of ulcers by Thiersch's method of skin transplantation. (*See January number, page* 332.)

Discussion.—DR. HINGSTON regarded the results obtained by Dr. Bell as highly satisfactory. He thought the greatest drawback to the method was the difficulty of obtaining these large pieces of skin sufficiently thin.

DR. RODDICK thought that this mode of treatment was an improvement on all others for certain kinds of ulcers. He did not think it was necessary to dissect out the ulcer; a fresh surface could be obtained by scraping. The first case shown was under his care in the hospital. He at one time held suspicions that it was a case of epithelioma; he intended, however, to have scraped out the ulcer and filled it up by skin-grafting.

DR. SHEPHERD referred to some cases he had seen treated in this way in New York three years ago. Surgeons have been known to use the whole thickness of the skin.

DR. CAMPBELL said that many old methods are often forgotten in the search after new ones. He regarded the old method of strapping ulcers, known as Boynton's method, as one of the best. This method and the treatment by blistering, though now largely supplanted by others, had formerly yielded him excellent results.

DR. BELL, in replying, stated that he did not claim this method to be the best for all classes of ulcers, but did believe that it was applicable to ulcers that could not be healed by other methods. He always carefully removed all the diseased tissue before apply-

ing the skin-grafts, but did not think dissecting out every ulcer was necessary. He had dissected out the ulcer in the first case because he feared that deeper tissues were involved. He had seen successful cases in Germany where the deeper tissues had to be removed and even pieces of bone chipped off before applying the new skin. The longest time taken by any of the ulcers to heal was thirty days; that was his first case. It was dressed on the fifth and thirteenth day; none of the other cases were dressed before the twenty-first day, when he invariably found the ulcer healed. This method possessed the great advantage of growing a good sound skin to the ulcer, and does not necessitate reducing the ulcer to a healthy condition before grafting.

Cystine Calculi.—Dr. Roddick exhibited several small cystine calculi passed per urethram. The patient is a delicate-looking man, 57 years of age; he gave a history of several attacks of renal colic, the first occurring three years since, followed by the passage of some fifty calculi varying in size from a pin's head to a pea. Lately the attacks have been less severe, and all have not been followed by passage of stones, but always gravel. Pain formerly equally severe over both kidneys, of late only over left. No hereditary history of stone of any kind.

Remarks.—Cystine calculi are exceedingly rare—less than one per cent. in European collections. Gross says he never met with a case. The disease is common in dogs. Nearly all cases previously reported show hereditory history. This form of calculus always forms in the kidney, and is usually multiple. They have the appearance of beeswax, and soft enough to be compressed, as in the specimens exhibited, where from lying in contact either in the kidney pelvis or the prostatic urethra have become faceted. The majority of the stones passed in this case are coated over with uric acid.

Discussion.—Dr. Ruttan, after showing a slide of crystals of cystine under the microscope, demonstrated some of its chemical reactions. He also stated that this variety of calculi is not always soft when passed, as by remaining in the bladder for any length of time they may become coated with uric acid or phosphates. Some of the calculi shown are coated with uric acid;

one calculus containing about 25 per cent. Owing to the peculiar constitution of cystine, it combines with and is soluble in either strong alkalies or acids, thus is easily distinguished from uric acid. The sulphur is readily detected either by boiling the powdered calculi in lead acetate and caustic potash or by fusing with potash and adding a drop of nitro-prussiate of soda; the purple color in the test is very marked. As no other calculus-forming substance contains sulphur, the detection of its presence in a calculus proves it to be cystine. Cystine was also found in marked quantity in the patient's urine.

DR. REED referred to a fine specimen belonging to Dr. Fenwick, which had been removed by lithotomy. It was soft like wax while in the bladder. The appearance of the hexagonal crystals under the microscope resembles iodoform, and care must be taken not to confound the one with the other when this drug has been used in injections.

Case of Periosteal Sarcoma of Femur.—DR. RODDICK gave the following history: The patient was a young man, a civil engineer by profession, 24 years of age, thin and anæmic. Distant family history of tubercle, but none of cancer or tumor of any kind. No history of syphilis. He was quite well up to July last, when he sustained slight injury to left knee, aggravated later by kneeling in canoe for several days paddling. The case looked at first like simple or rheumatic synovitis, and it was treated as such by blistering, etc. When he came under observation here the effusion was very great, causing severe pain from tension; skin thickened and slightly œdematous, not like the smooth, glistening or white appearance of ordinary or strumous synovitis. Aspiration showed thin, bloody serum containing blood-clots and debris of tissue. Suspected sarcoma and made exploratory incision.

Remarks.—Had patient's condition warranted, would have preferred amputation at hip, as I believe periosteal sarcoma more liable to recur owing to continuity of periosteum. Would be less afraid of recurrence in central or myeloid sarcoma. Patient was doing well at time of report, one week after operation.

Discussion.—DR. HINGSTON said he could agree with Dr.

Roddick in the unsatisfactory nature of an amputation in the continuity of the bone in periosteal sarcoma. He had formerly operated leaving a portion of the bone, but found he had almost invariably to operate again later to remove the rest of the bone. In his opinion, operation in the continuity of the bone is always unsatisfactory, while removal of the entire bone has given him the best of results.

Dr. Shepherd said that in his experience the disease generally reappeared in either form of operation: not in the stump, as a rule, but in some of the internal organs.

Dr. Bell could recall many cases during his experience in the General Hospital, where the limb had been amputated in the continuity of the bone. In all these cases the disease had recurred in some of the internal organs. Cancer, in his opinion, does not spread by the periosteum, but through the lymphatic system.

Resection of the Intestine.—Dr. Jas. Bell showed a specimen from the following case:—B. D., aged 17, was admitted to hospital on the evening of the 8th of November suffering from a strangulated inguinal hernia. The boy was a plumber by occupation, and had never had a hernia until Sunday the 6th of November, two days prior to admission, when he complained of pain in the upper zone of the abdomen and noticed the swelling in the right scrotum. He took a dose of black draught, which produced in the night one small motion. Vomiting set in the following morning and continued until his admission to hospital. The patient was anæsthetized, and moderate taxis having failed, herniotomy was performed. The sac was opened and found to contain about ten inches of small intestine very firmly strangulated in the whole length of the canal, which was enlarged and the bowel drawn out and examined. It was very black, but glistening, and distended with air, and was consequently returned. The obstruction symptoms, however, remained unrelieved, and tympanitic distension of the abdomen developed gradually. The pulse and temperature, as well as the general symptoms, indicated peritonitis. Thirty-six hours after the herniotomy it was decided to open the abdomen and endeavor to relieve the obstruc-

tion. The abdomen was opened in the middle line. There was general peritonitis, and the intestines were hyperdistended with gas. The obstruction was found to be due to the collapsed and kinked condition of the portion of gut which had descended in the hernial sac. It was the lower portion of the ileum, and was quite gangrenous, lines of demarcation forming at the points where it had been constricted at the internal ring. The gangrenous bowel was excised with a triangular portion of mesentery, the operator cutting through the healthy bowel about half an inch beyond the forming line of demarcation at either end, the lower section being about three inches from the cæcal valve. The distended intestines were punctured by hollow aspirating needles to evacuate the gas before they could be returned. After excision, the ends of the bowel were carefully united by silk sutures, the first six or eight being carried through the whole thickness of the wall of the gut at opposite points to secure accurate coaptation, and then a continuous Lembert suture. The abdomen was washed out with warm water, a drainage tube left in the lower end of the wound, and a gauze dressing applied. The operation occupied one hour and a half, and the patient, who only partially rallied, died two hours after its completion.

Discussion.—Dr. Shepherd said that he regarded the so-called lustre as a very deceptive characteristic of healthy intestine. The bowels of subjects in the dissecting-room show a well-marked lustre.

Dr. Roddick thought that the operation of the future would be to open the abdomen at once and thus obtain a good view of the affected intestine. This is the great difficulty of the ordinary method of operation. He had seen many worse cases than Dr. Bell's recover.

Dr. Hingston said his rule in strangulated hernia is to operate at once. He had been often astonished to see how quickly cases would recover where the hernial mass was quite black when returned to the abdomen. Removal of a piece of intestine is always a very serious operation. He makes a practice to return the bowel in every case.

Specimen of Tubercular Cystitis.—Dr. Johnston exhibited

the bladder and kidneys of a tuberculous case occurring in the practice of Dr. Roddick. An unhealed fistula was shown opening into the urethra in front of the prostate ; upon the walls of the fistula and about the base of bladder were a few tubercles ; the rest of the bladder was free from tubercles. The right ureter showed numerous patches of tubercular ulceration, and in right kidney two of the calices presented extensive caseous softening ; left kidney and ureter free from tubercle ; acute miliary tubercular peritonitis and pleuritis ; miliary tuberculosis and amyloid of liver, spleen and kidneys, commencing tubercular meningitis.

Dr. Johnston stated that he had examined a specimen of the patient's urine, sent him about a week before the death, and could find no bacilli. It had surprised him when on making the autopsy such extensive caseous softening of the pelvis of the right kidney was seen, as this usually yields enormous numbers of tubercle bacilli. Examination of the caseous masses in the kidney, however, in about twenty specimens he found no bacilli. A small number of bacilli were found in the ulcers in right ureter and in the walls of the fistula, and this should have shown the true nature of the case had a larger quantity of urine been examined.

Dr. Bell had the case under observation some time, and about a year since, suspecting either stone or tumor of the bladder, performed median lithotomy, but failed to find any foreign body. The perineal opening never closed, and it was to receive some relief for this that he was admitted to hospital under Dr. Roddick's care.

Dr. Roddick stated that he attempted to close the perineal opening by a plastic operation, but this failed. The immediate cause of death was tubercular meningitis. He had a case at present in hospital where he had long suspected tubercular disease of the kidney, his suspicions being at length confirmed by the discovery of bacilli.

Dr. Shepherd said that Dr. Guion of Paris states that tuberculous affections of the trigone of the bladder or of the prostate is always characterized by symptoms closely resembling those

of calculus, such as pain at the end of the penis and frequent micturition, the pain increased by movement, etc.

DR. JOHNSTON stated that in this case the oldest disease was near the prostatic portion of the bladder, and that there were caseous masses in each epididymus.

Saccharine.—DR. REED made a few remarks on this remarkable substance, and passed around a specimen. It is obtained from TOLUENE, a coal-tar derivative. The intense sweetness of the compound, two hundred and fifty times that of cane sugar, and its inertness, have made it useful in preparing anti-diabetic diets, and it is now being used with success. It is a white powder, sparingly soluble in water; half a grain is sufficient for sweetening a cup of tea or coffee. Even at its present price of seventy-five cents per ounce, it competes with sugar.

Stated Meeting, November 25th, 1887.

DR. GUERIN, 2ND VICE-PRESIDENT, IN THE CHAIR.

New Members.—Drs. H. Perry and Lorne Campbell were elected members.

Multiple Onychia.—DR. JAMES STEWART exhibited for Dr. R. J. B. Howard a case of multiple onychia occurring in a young man aged 18.

Some Questions suggested by the present Epidemic of Diphtheria in Montreal.—DR. ARMSTRONG then read a paper on this subject, which will be found among our original communications, page 385.

Discusssion.—DR. PROUDFOOT could thoroughly concur in what Dr. Armstrong had said with regard to the difficulty sometimes experienced in diagnosing a case of diphtheria from "follicular tonsillitis." He had seen cases where the tonsil was inflamed and there was no membrane to be seen, but which subsequently developed a severe form of diphtheria. He thought, however, that where the glands of the neck were simultaneously inflamed, we might be pretty sure that the case was one of diphtheria. With regard to the recurrence of the disease in the same person, he was of the opinion that a patient who had true

diphtheria was seldom again attacked by the disease; he had never seen more than two or three cases of the kind.

Dr. Mills thought that one of the most interesting and important questions in connection with diphtheria was the causation of the cardiac weakness and the lesions peculiar to the heart. Experimental examination of numerous animals had now made it clear that the vagus was all important to the nutritive processes of the heart. There were many clinical and pathological facts which supported the same view for man. It seemed doubtful if the poison of diphtheria injured the heart solely or chiefly by affecting the muscular tissue directly through the blood. Did the virus act directly on the nerve terminals or on the active centres of the cardiac nerves or other centres of distribution (sympathetic ganglia in case of accelerators)? Fatty degeneration of the cardiac tissue follows section of the vagi. May not the degenerations in diphtheria have also a nervous origin? It is important to determine this, as behind it lies the question in this and many other cases of cardiac disease of therapeutic treatment through the nerves of the heart or their centres. Dr. Mills thought the present time, when diphtheria was so prevalent, afforded a good opportunity to raise the question as to what action the Society should take in regard to some expression of opinion on the general sanitary condition of the city, with a view of calling more directly the attention of citizens to the subject, and if possible of rousing the civic authorities to take such steps as were called for by the gravity of the sanitary situation for some years past. It seemed to him that it was the privilege and duty of a society, representing the English part of the profession at least, to enlighten and warn the public in regard to matters of such vital importance, and on which the Society was supposed to be specially competent to form opinions. Their warnings might not always be needed, but they tended to form and strengthen enlightened public opinion; and, at all events, the question was not one of practical result, but one of the duties of the more informed towards the less informed, and in not a few cases the infantile and helpless members of the community.

Dr. Geo. Ross said: The only difficulty in dealing with the

paper, which was of much interest at the present time, was the extensive ground covered by it; indeed any one or two of the important points raised would be sufficient to occupy the attention of the Society for an entire evening. The question of the accurate diagnosis of diphtheria was even yet a vexed and undecided one. Some eminent observers, notably a somewhat recent writer in New York, go so far as to say that there are more cases of diphtheria walking about than are to be found in bed; thus assuming that practically all those sore throats which most of us call exudative or follicular tonsillitis are really of a specific and infectious nature. He cannot agree to this. An immense amount of clinical evidence might be adduced against the supposition. It is true that occasionally a genuine diphtheritic exudation is seen occupying the crypts of the tonsils and showing as small and circumscribed yellow patches upon the faces of these two organs, but this occurrence is very rare in his experience. A recent case in hospital practice exemplified the condition, where the duration and the fact of its occurring in a family where three other members were simultaneously suffering from rather severe diphtheria conclusively demonstrated its specific character. As regards nasal diphtheria, this form is generally and with much justice looked upon with alarm, the situation affected being thought to add considerably to the risk of septic infection of the system. In cases of moderate severity, when the nasal passages are secondarily involved, this would certainly appear to be the case, but in at any rate some of the cases of primary nasal diphtheria, the course of the disease is remarkably subacute and of mild form, and without any danger to life. This fact is sometimes lost sight of by practitioners, and children thus affected are supposed to be suffering from common coryza, often with disastrous results in the family. During the epidemic prevalence of diphtheria, in all cases of apparent catarrhal fever the nasal fossæ should be carefully examined for membrane. It is seldom that this cannot be readily seen, if present. With reference to Dr. Armstrong's question as to the causation of urinary suppression, he was of opinion that in some cases this was the result of organic changes in the kidneys, other pheno-

mena being quite secondary to this; whereas in a second class of cases, the primary effect was upon the nervous mechanism of the heart, disturbing its regularity and lowering the force of its contractions, the partial or complete suppression following from diminution of blood-pressure. As intubation of the larynx was a novel procedure here, Dr. R. would like to mention his experience of three cases (further details would be furnished by Dr. Major, who operated). No. 1 was first seen on the eighth day of illness—a boy 5 years of age was cyanotic, intensely distressed, and rapidly asphyxiating. Tube in larynx gave instant relief. He died ten days later from gradual heart failure, but air entered lungs freely. No. 2, girl of 5—too small a tube introduced was soon coughed out, followed by expulsion of complete cast of larynx and upper trachea; immediate relief and complete recovery. No. 3, girl of 4 years, admitted to hospital after some days illness; very extensive, thick and foul membrane in fauces; very weak; soon had nephritis, and showed a marked septic state; a fatal prognosis given; but intense laryngeal dyspnœa came on; to relieve this, larynx was intubated, with immediate and complete relief to breathing for twelve hours before death. It remained, of course, for further experience to enable us to compare this procedure with the operation of tracheotomy. Dr. Ross said he was trying the local application of "papoid" in diphtheria. It was applied by means of a brush in five per cent. solution every half hour. In hospital he had treated 26 cases, many of them severe, and some of them very severe. Of these, 13 were discharged well; 12 remained under treatment, but he thought, without doubt, would all recover; one only died. He was certainly favorably impressed with the action of the drug, but could not say more than this until extended observations had corrected or confirmed first impressions.

Dr. Cameron remarked that in his practice ear and nasal complications have been very common during the present epidemic. In some cases a chronic nasal discharge, more or less irritating in nature, persists for a considerable time. He raised the question whether such nasal discharges were infectious, whether there was any way of determining when they ceased to

be infectious, and whether it was right to give a clean bill of health to a patient with chronic nasal discharge after diphtheria. He was inclined to consider these nasal discharges as always more or less dangerous. He then called attention to the lax and unsatisfactory manner in which the health officials deal with the infectious cases, which they now compel medical men to report to them. It is hard to say just where the fault lies, yet it is painfully evident that under present arrangements the reporting of infectious cases results in very little good. The public have a right to expect preventive measures, and are not satisfied with so-called disinfection of premises and the compilation of statistics and reports. It seems as if aldermanic patronage lay at the root of the soil. Satisfactory administration of our health department can never be secured while health officials are blocked and thwarted in the fulfilment of their duty and made to feel that their tenure of office depends upon their pliability.

Dr. Major strongly pronounced against the idea that lapse of time granted immunity from contagion in diphtheria. In the case of persons in attendance on diphtheria, no specified time would be sufficient to destroy the germs. In so far as danger to others was concerned, such persons were as likely to convey the disease in three weeks after exposure as in three days. In proper disinfection alone could we look for safety. In persons afflicted with the disease, after all traces had disappeared, he considered a few days ought to be allowed to elapse, during which daily disinfection should be practised before allowing of contact with others. The question of the influence exerted by an unhealthy condition of the nose or throat in favoring the development of diphtheria is an important one. There can be but little doubt that a chronic state of hyperæmia such as is so commonly met with will increase the liability to diphtheria. In the case of a little girl, a patient of Dr. A. A. Browne, I excised a large tonsil; within a year afterwards this child contracted diphtheria. The duration of the illness was three weeks, and although the opposite tonsil and the surroundings of the ablated one were covered with membrane, the cicatricial surface re-

mained free throughout the period of three weeks, during which membrane was present in quantity. The same observation was made recently in a case of syphilitic cicatrization of pharynx, wherein the cicatricial tissue was wholly free from exudation. In the case of a child whose pharynx had been injured by swallowing lye, the same absence of membrane on cicatricial tissue was remarked. All this goes to show that membrane is favored by an excessive circulation and *vice versâ*. In reply to Dr. J. C. Cameron's question, Dr. Major stated that in nasal diphtheria care should be taken that all discharge from the nose has ceased before a clean bill of health was granted. As Dr. George Ross had referred to "intubation of the larynx," and associated Dr. Major's name therewith, he would make a few remarks with reference to a few of his more recent cases. He wished it understood that tubage had been resorted to by him in cases where all possibility of saving life was out of the question, and had been undertaken merely as a means of allaying the suffering produced by strangulation.

D. T. L., aged 5 years, was seen in consultation with Dr. Browne on June 8th, at 5 A.M. The breathing was most difficult and suffocation was impending. An O'Dwyer's tube was introduced with instantaneous relief. The tube was removed on June 11th, at 9 P.M., when the breathing seemed quite satisfactory; at midnight of same day, however, it was necessary again to return it, as dyspnœa with marked retraction supervened. The tube was permanently withdrawn at 3 P.M. on June 17th. On laryngoscopic examination, a slight abrasion of left ventricular band was noticed.

The foregoing case was one of inflammatory croup, and developed as alarming symptoms of suffocation as I have ever seen.

T. J. aged 3 years, also a case of catarrhal croup, was seen with Dr. Browne 2 A.M. Saturday, Oct. 29th. The patient was in a very critical condition, and it was with difficulty that the tube was introduced in time to prevent a fatal issue. On introduction, however, the breathing was immediately relieved, and continued good until the morning of Wednesday, Nov. 2nd. On Thursday, Nov. 3rd, at noon, I removed the tube and found it

filled up with some material which, on examination by Dr. Wyatt Johnston and Dr. Ruttan, proved to be starch granules, caseine, epithelial scales, etc. The breathing improved at once, and continued in a satisfactory condition.

J. C., aged 5 years, was a case of diphtheria with laryngeal extension. On examination of the larynx with laryngoscope, membrane was found there in quantity. The difficulty in breathing was very great, when Dr. Geo. Ross requested intubation. The tube was introduced at noon on Tuesday, Nov. 1st. It was removed at 3 P.M. on Sunday, Nov. 6th, but as dyspnœa became urgent it was reintroduced at 8 P.M. of same day. The child's breathing continued good until Thursday, Nov. 10th, when death resulted from sepsis.

On Sunday, Nov. 6th, Dr. George Ross desired that a child aged 6 years, suffering from diphtheria in the contagious wards of the Montreal General Hospital, should be intubated. As I was at the time possessed of but one set of O'Dwyer's instruments and tubes, I had not a tube suitable for the child's age, as it was already in use in the former case. On examining the larynx with the laryngoscope, I made sure that a smaller tube might be used with safety, as it would not pass into the trachea, although it probably would not be retained. The breathing was very much oppressed, and membrane was seen extending some way into the trachea. On intubating, the tube after a few minutes was coughed up, and with it a cast of the larynx and trachea. The breathing now became good, and recovery was rapid. This was only a fortunate accident attending the manipulation of tubing.

W. A., aged 18 months, was suffering from catarrhal croup, and was in a bad way on Monday, Nov. 14th, when Dr. R. P. Howard requested intubation. The tube was introduced at 3 P.M. and removed on Friday, Nov. 18th, at 1 P.M., when the necessity for a tube no longer existed. A good recovery resulted.

J. Q., aged 3 years, a patient of Dr. Guerin, was tubed Thursday, Nov. 17th, at 6 P.M. Pulmonary collapse was observed and the tube removed on Sunday, Nov. 20th, at 6 P.M, The case terminated fatally the same night. The child was suffering

from catarrhal croup; on examination of larynx no membrane could be seen. The collapse probably antedated the tubage.

Hospital case, girl of 11½ years, suffering from a very malignant type of diphtheria with excessive septic poisoning. The breathing was so very distressing that Dr. Geo. Ross requested intubation for its relief. The case was of an utterly hopeless nature. The tube was introduced at 9 P.M. Friday, Nov. 18th, and afforded instantaneous and marked relief. The child was enabled to lie down and sleep quietly, dying the following morning at 6 P.M. of sepsis.

Hospital case: J. C., aged 4 years, suffering from laryngeal diphtheria, was tubed at 4 A.M. Friday, Nov. 25th, and died at noon the day following. Probable cause of death extension of membrane into bronchi.

Intubation may be practised with one of two objects in view, viz., to save life or merely to relieve dyspnœa (when the saving of life is hopeless). From statistics showing the life-saving power of tubage as compared with tracheotomy, the comparison is certainly in favor of intubation. The measure of relief tubage affords in laryngeal stenosis from whatever cause, the readiness with which friends give consent, and the rapidity with which a tube can be inserted, are all points strongly in favor of intubation. There are a number of conditions that should be well considered in tubing, and as one's experience extends the recognition of possible accidents increases. In tubing, if breathing is not satisfactorily restored within a few seconds, withdraw the tube, reintroduce it, and again withdraw it if necessary, reintroducing it; if the breathing is still imperfect, contemplate tracheotomy. The fear of forcing membrane down before the tube is one often urged, but is one of the accidents least likely to happen. Tubage does not interdict subsequent tracheotomy, and tubage is proportionately valuable, as it is performed early. Many cases of pulmonary collapse no doubt antedate the operation, and experience probably will prove that pulmonary collapse is one of the conditions most to be feared as likely to be attributed to the operation and not to the state for the relief of which the intubation was undertaken.

DR. REED suggested that the knee-jerk be sought for in all cases, as involvement of the nervous system has been known to occur even when the throat trouble has been slight as to pass unheeded. According to Formad, bacteriology is insufficient to distinguish simple follicular tonsillitis from fatal cases, the same microbe having been found in both.

DR. MCCONNELL stated that although the health department were not entitled to much credit for the part they have taken towards staying the present epidemic, yet, in view of the multiplicity of views held in regard to the etiology of the disease and its management, some allowance might be made for failure in making specific efforts towards its arrest if some of the ordinary sanitary requirements of the city were not so sadly neglected. He believed it to be a parasitic disease (Zoefler's bacillus, probably), and hence amenable to all means which are known to destroy them or prevent their development. If this view was more generally adopted, our management and treatment of these cases would have a more definite aim and be applied more intelligently. He thought it unfortunate that Jacobi, in a standard modern work like Pepper's, should not countenance this origin for diphtheria, as it explains satisfactorily the chief feature of the disease. From his observations he believed it to be at first a local disease; the growth in the mucous or abraded surface (resembling perfectly culture tube-growths of bacillus, etc.) precedes constitutional symptoms, and the latter disappear when the surfaces are free from the membrane. This was well seen in a child of 3 years now under treatment for the fourth attack; he had recovered from the third but four or five days. Pharynx clear and no fever, when he used a piece of gum that a sister suffering from the disease had been masticating; in five or six hours after a fresh patch appeared on the tonsil, and there was a return of pyrexia. Each of the other members of this family had had the disease twice, showing a family predisposition. He treated his cases with germicides, using acid sulphurous, boric acid, tinct. ferri mur. and quinine internally, and corrosive chloride with atomizer and the air of the room saturated with vapor from boiling water, on which was kept constantly a quantity of equal

parts of carbolic acid and turpentine. If pathogenic bacilli were the cause, to prevent their development the remedy should be brought into contact with the rapidly-growing patch almost constantly, hence atomizer and internal mixture (whose action is chiefly local) should be alternated every fifteen minutes or half hour. This had given most satisfactory results. A case of laryngeal diphtheria had recovered under the use of Tr. Ferr. Perchl. internally and the antiseptic inhalations already mentioned.

DR. ARMSTRONG, in reply, said: I think it is generally agreed that a healthy nasal and pharyngeal mucous membrane is protective against the poison of diphtheria. Unfortunately, in our climate perfectly healthy noses and throats are not too commonly met with. The great objection to the idea of Prof. Hughlings-Jackson mentioned by Prof. Mills is that ant. pol. myelitis is essentially an incurable disease and the paralysis of diphtheria nearly always gets well. I am glad Dr. Ross still finds reason to hold the views he has expressed in regard to diagnosis. The cause I purposely avoided in my paper. It is a large subject. The plumbing of Montreal is bad—very bad, and the Board of Health deserve the same qualifying adjectives. They are nearly useless. I am willing to do all in my power to improve things, but under the present regime at the City Hall I am afraid that all our efforts intelligently put forth would avail little or nothing.

Selections.

Odium Anti-Medicum.—It is a great misfortune for the public that Lord Grimthorpe is not compelled to write for his living under a vigilant and responsible editor. In that case his exuberant vitality might be turned to good account, and his zeal would not be allowed to run away with his discretion. Lord Grimthorpe has been passionately excited by a very commonplace lawsuit decided by Mr. Justice Manisty at the end of the Michaelmas sittings. In that action Mr. Kenneth Millican obtained an injunction against the Governors of the Queen's Jubilee Hospital, Gloucester Square, to restrain them from dismissing him as one of the medical staff. The ground of Mr.

Millican's dismissal was that he had connected himself with the Margaret Street Infirmary, where treatment by homœopathy is practised, if the patients desire it. But Mr. Justice Manisty's decision, against which an appeal has been entered, was based rather on certain irregularities in the mode of Mr. Millican's attempted removal, which in the opinion of the Court were unfair to him, than on the reasons given by his employers for their conduct. It would indeed be obviously beyond the province of a legal tribunal to decide between homœopathy and allopathy; nor would a judge's view of the matter be worth more than anybody else's. So far as we can understand Mr. Millican's rather confused letters in the *Times*, he does not practise homœopathy hemself, but only maintains that homœopathic practitioners do not get fair play, whatever that may mean. These simple facts, of no particular interest except to the parties concerned, might have seemed rather unpromising material for a fiery controversy, at least to ordinary men. But Lord Grimthorpe is not an ordinary man. He is, as Mr. Matthew Arnold says of Shelley, though in a different sense, "inflammable," and the fire is apt to kindle before he has mused sufficiently. Lord Grimthorpe's rage against the medical profession is probably not inspired by any particular dislike of doctors. The fact is that he hates all professions, except the legal one, and "bangs them most severely," whether they consist of clergymen, doctors, architects, or clockmakers. If Lord Grimthorpe ever suffers from the physical ills to which flesh is heir, he may, for aught we know, take his blue pill, or his pink medicine, with Christian resignation. But doctors in the lump he holds to be bad. He denies their right to say that they will not act with homœopathists—he threatens them with an indictment for criminal conspiracy—he would apparently be glad to see the gaols full of orthodox physicians and surgeons. How much law Lord Grimthorpe knows is, we believe, a question open to considerable doubt. His career at the Parliamentary Bar did not require much legal learning, and a Vicar-General may, we presume, confine himself to the principles of ecclesiastical jurisprudence. He certainly seems to have missed the point of Mr. Justice Manisty's judgment.

Lord Grimthorpe, however, with all his swagger, sometimes meets antagonists who are more than a match for him. Such, if we are not mistaken, was Sir John Hawkshaw in the witness-box. Such certainly is "R.B.C." in the columns of the *Times*. As Dryden said of Elkanah Settle, Lord Grimthorpe's prose is boisterous, and his style incorrigibly lewd. "R.B.C." writes with composure, and differs from Lord Grimthorpe in sometimes pausing to take breath. Moreover, he keeps his temper, and therefore does not lose his head. Lord Grimthorpe altogether fails to show, indeed he has made no serious effort to show, why doctors should co-operate professionally with men whom they believe to be dangerous imposters. They may be wrong, of course. But they are bound to act upon their own convictions, and not to trifle with their patients' lives by sanctioning what they regard as a fraud. One instance cited by "R.B.C." will explain the medical standpoint as well as a thousand. "Belladonna," he says, "was adopted (by the homœopathists) as the cure for scarlet fever, because it was said to produce a red rash upon the skin. Belladonna was also recommended by Hahnemann as a cure for hydrophobia, becauses it produces a dryness of the mouth, which leads the patient to make efforts to relieve himself from the annoyance of viscid saliva· But there is no real resemblance between the belladonna rash and the rash of scarlet fever, nor between the viscid saliva produced by belladonna and the condition produced by hydrophobia. Nor, after the lapse of eighty years, has there been any instance of a cure of either disease by the reputed remedy." This is putting the matter plainly, and it ought to be decisive. Either the whole of medical science rests upon nothing, or homœopathy is utter nonsence. In these circumstances it is ridiculous to expect that allopathists will consort with homœopathists. An honest and competent man cannot work with a person whom he believes to be either a fool or a knave. No one objects to the practice of homœopathy by those who put faith in it, and any one may resort to them if he thinks fit. But even Lord Grimthorpe can hardly suppose that it is in the power of the Law Courts, or even of Parliament, to make men of scientific training consort

with ignorant quacks. It would not be tolerance, but scandalous indifference to truth and to human life, if doctors were to follow Lord Grimthorpe's advice and treat homœopathy as an open question. Lord Grimthorpe says that homœopathy has never been formally condemned by the medical profession as a whole. We doubt whether the Society of Architects have met together and solemnly affirmed that the law of gravitation is sound. If Lord Grimthorpe thinks that any drug which will produce certain symptoms in a healthy person will cure the same symptoms in a diseased person, and that a cough or a rash is always due to the same cause, he is entitled to his opinion. But he cannot make a doctor share it, or force him to pretend to respect those who do.—*Saturday Review.*

Feeding Phthisis.—Physicians of the present day, regarding phthisis as a fever, are taking the hint from Graves' celebrated maxim, and feeding it. Not that it has waited for the present day, or even decade, to demonstrate the value, or rather the imperative necessity, of a supporting treatment of the disease whose prominent clinical feature is so aptly expressed in many languages—consumption, schwindsucht, *phthisis*. Not that the principal features of our hygienic and dietetic regulations may not be found in the writings of the older authors, and how far back we hardly venture to fix the limit; but that the subordination of medication and the desire for medication to alimentation and concomitant measures, is distinctly modern as a generally adopted practice.

However much others may have contributed to this result, and however independently the practice has been elaborated, no one can consider the subject of alimentation in phthisis without rendering at least a passing tribute to the value of Debove's method of forced feeding. His striking results emphasized the lessons of experience, encouraged us to disregard loss of appetite, or even complete anorexia, proved that powers of digestion and assimilation did not decrease *pari passu*, and indeed were not to be arbitrarily limited by any other method than actual experiment; and his systematic use of meat powders gave us a hint

as to the best method of preparation of food, the merit of which is no less that American chemists have since much improved upon it.

Our resort to the tube of Debove may be limited to cases in which physical or psychical disability prevents superalimentation by less distressing methods. The word is used advisedly. Often as the writer has performed *gavage*, and he flatters himself not with any great degree of awkwardness, it has in almost every instance proved a source of distress to patient and physician; though it must be interpolated that the refined disgust of the omnipresent carping friend, relative, nurse or other busybody, has always far exceeded that of the sufferer.

However, in most instances, by judicious persuasion, explanation or insistence, it will be possible to induce patients to take a sufficiency of aliment in the ordinary way.

It is again to Debove that we must give credit for having demonstrated what is meant by *sufficiency* of aliment, namely, the extreme limit of assimilability. We have not only to provide for current needs, to repair daily excess of combustion, but to make up as far as possible for previous unrepaired waste.

We have thus to determine in each case, and to prescribe with the same precision as in the case of drugs, the quantity and quality of food, and the times of feeding. As the results of experience, general rules will gradually formulate themselves in the mind of the practitioner; and confirmation or modification will result from the progress of physiological chemistry. The opinion most widely prevailing at the present time assigns the first rank as an aliment in phthisis to flesh, and more especially to beef. The results obtained by certain individuals, who devote themselves to the treatment of disease by an exclusive diet of beef prepared in a certain and most excellent manner, conjoined with lavatory potations of hot water to prepare the digestive canal for the reception and disposition of the aliment, cannot be ignored; whatever we may think of the theories or methods of the practitioners in question. Without confining themselves to beef, scientific physicians are justified in giving it the first rank.

It should be taken at least twice daily, three times if possible. It may be eaten raw, as it comes from the butcher, or it may be chopped finely, seasoned to taste, and made into little cakes, which are eaten raw or slightly browned on the grid-iron. It may be taken in the form of rare beefsteak broiled in its own fat, or as very rare roast beef. Other methods of cooking are to be prohibited. The meat is to be as juicy as possible, and fibrous portions are to be removed.

Very often one can be satisfied with the use of butcher's meat, raw or cooked as above. Sometimes, however, whether from partial failure of digestive powers or other condition necessitating reduction in bulk without loss of nutritive material, or suggesting conservation of the energy that would be expended in digestion, it becomes necessary to resort to special methods of preparation. The meat powders prepared by various pharmacists, more especially for forced feeding, here render valuable aid. By cutting boiled beef into fine pieces, drying by means of a water bath, and grinding in a coffee mill with the teeth set closely, an excellent meat powder may be made in the kitchen (*Dujardin-Beaumetz*)

The preparation from which the writer has seen the greatest benefit, and which he is most frequently in the habit of prescribing, is beef peptonoids. Whether from improvement in the process of manufacture, rendering it more palatable, or from decrease in the fastidiousness of patients, there has not recently been the same difficulty in getting patients to persevere in the use of it that was experienced in former years. The methods of administration may be varied almost indefinitely. It may be added to soups and broths, to milk punch, egg-nog, etc., taken in warm or cold water, or made into a paste with milk or water and spread upon bread. Beginning with a teaspoonful three or four times a day, the amount is to be increased as soon as the preferable method of administration is determined upon, to a tablespoonful or more. It is preferably given among the supplementary articles of diet, between meals.

Next to beef in the dietary, the writer would place milk, sufficient care being exercised to obtain a good, pure article and

to keep it properly. The "half Alderney" milk is usually better than either the pure Jersey milk or that from ordinary cattle.

The manner of drinking milk is not unimportant. Ice-cold, gulped hastily, the chances are all in favor of its promptly coagulating and failing to digest, perhaps to be vomited, perhaps to cause considerable discomfort in various ways. While with some patients it is best taken cold and with some quite hot—a matter for which experience seems to be the only guide—in the majority of instances it should be slightly warmed (say to 100°) and sipped slowly, so as to thoroughly incorporate it with saliva. Ten minutes may well be given to a tumblerful of milk, and in this way the fancied "disagreement" of which many persons complain may be avoided. If necessary, lime-water may be added or peptonized milk employed. When these expedients fail koumyss may be tried, and failure here may indicate the necessity of greater attention to the condition of the gastro-intestinal mucous membrane: not necessarily medication, however. Potations of hot water (flavored, if necessary, "ærated," acidulated or "mineralized" in some cases), from half a pint to a pint, one hour before meals, or *lavage* with simple alkaline solutions may answer. When disinfection of the alimentary canal seems indicated, creosote, iodoform and the sulphur compounds are among the preferable agents.

From one to two quarts of milk daily, in divided doses, should be given, if possible; partly with meals, partly between meals; as a vehicle often for beef peptonoids, etc., and sometimes for alcohol.

Alcohol, despite all that is said, forcibly and truly, against its indiscriminate employment, is in reality a food in phthisis. We may or we may not be able to follow the molecular changes and cellular reactions from the moment of its introduction to that of its elimination; but whether or not physiological chemistry has said its last word upon this subject, that intelligent empiricism upon which clinicians must continue to depend has demonstrated the value of alcohol in wasting diseases, and more especially in those associated with elevation of temperature. It need not be given in excessive doses. A tablespoonful of good brandy or

good whiskey, night and morning, in the form of milk punch—or, better, cream punch—with a glass of good Burgundy wine at dinner, will ordinarily suffice ; though much larger quantities may be given at times with much advantage. The elder Flint records instances in which a pint of whiskey daily was taken for a long time with apparently very good effect. The writer knows of similar cases. It is only fair to add that cod-liver oil was also used freely in all these cases.

Sometimes malt liquors may seem to be preferable ; and, if decidedly more agreeable, the patient's taste may be considered ; a good wine of coca, used intermittently, is often useful. For prudential reasons, alcohol may be disguised as an extract of malt—and here the power of the diastase of the malt in aiding digestion is often of service—or it may be made into a prescription, as in the formula of Jaccoud, of glycerine, mint-water and rum. The combination of alcohol with milk, malt, cod-liver oil or glycerine is, theoretically, preferable to (Fothergill) and in experience more advantageous than its separate ingestion.

Returning to the consideration of meats, the value of an occasional variation of our beef diet must be recognized—in the way of a digression, however, rather than of a total or lasting departure. Mutton—preferably broiled chops—poultry and game, carefully cooked, and whenever possible rather underdone, may be employed from time to time. The " dark meat" is preferable to the " white meat" in the case of poultry. Sweetbreads are often tempting to a failing appetite, and may assist digestion. While the skill of the cook may well be called upon to supplement the knowledge of the physician, yet elaborate dishes of all kinds, high seasoning of all kinds, and, in plain English, messes of all kinds—even among our humbler patients, the " Irish stew" —are to be rigorously interdicted. Even soups should be as simple as possible. Eggs, when palatable, despite fears of " biliousness," form a useful addition to the dietary. A raw egg may be sucked from the shell, and will thus often relieve an irritable condition of the pharynx. It may be beaten up with milk, or milk and whiskey. If the egg be cooked, it may be poached or soft boiled. Omelette, scrambled eggs and fried eggs are, as a

rule, to be avoided. Hard-boiled eggs are sometimes well digested, but in most instances are not. Fish, when relished, may form one of the auxiliary articles of diet. As to variety, the taste of the patient may be consulted. As to preparation, frying should be strictly prohibited. Broiling, boiling and baking are permissible. Of shell fish, when the patient desires it, and there is no other objection, oysters and clams may be permitted. All others should be prohibited. Many phthisical patients, however, are unable to take even an oyster without considerable discomfort.

The green vegetables—lettuce, celery, spinach, water-cress, etc.—are to be freely partaken of. The leguminous group, especially green peas, made into soup, boiled with milk or otherwise prepared, are of benefit. Starchy and farinaceous foods are, as a rule, to be avoided, though they need not in all cases be absolutely interdicted. They must, in any event, be subordinated to nitrogenous aliments, and the quantity taken be minimized. The especially indigestible and fermentible articles, such as potatoes and turnips, are best avoided altogether. Even the amount of bread consumed should be limited, and, if possible, that made from the whole wheat, or the gluten bread, or one of the similar preparations manufactured for diabetics, employed. Pastry and sweets are not to be thought of, save to be rejected.

While the diet is thus to be largely nitrogenous, a sufficient proportion of carbo-hydrates must enter into it. Fats and oils, preferably from the animal kingdom, will supply this. Cream has already been mentioned. Butter should be freely used. "Butter and bread" is to replace "bread and butter" in the consumptive's diet-list. Oil-dressings of salads, etc., are useful in the same connections. Cod-liver oil may be given, though it is doubtful whether the large quantities sometimes ordered are assimilated. A tablespoonful three times a day probably represents the extreme limit, and half that quantity may often suffice. In many cases, the patient will do just as well without any. When the pure oil can be taken, either floated on whiskey or in any other way preferred by the patient, it is best given in that form. Emulsions extemporized by the physician are in general better than the proprietory ones. Ether, say Hoffman's anodyne,

may be introduced into the emulsion, or given separately immediately following the dose of oil, and will not only assist in its solution, but stimulate the pancreatic secretion, which prepares it for absorption. The combination of pancreatic preparations with cod-liver oil is rational; that with pepsin is based upon ratiocination or experience that the writer cannot follow.

When sufficient fatty matters cannot be taken in any of the ways indicated, oleaginous inunctions may be resorted to. If the oil used for anointing has an unpleasant odor, one of the essential oils, such as oil of gaultheria, or oil of bergamot, may be employed to disguise it. Inunctions with lanolin may be doubly utilized as a means of introducing iodoform or other desired medicinal agents.

The frequency of meals is a point of much importance in the alimentation of phthisical patients. Rarely more than three hours, never more than four hours, except during sleep, should be allowed to elapse without the taking of food. The American custom of three set meals daily need not be altered, but in the intervals between meals, and just before going to bed, some of the lighter aliments, milk, soup or broth, milk-punch or egg-nog, etc., should be taken and as already stated with the addition, if possible, of beef peptonoids. When the peptonoids powder is not palatable or not available for any reason, the liquid peptonoids may be substituted, and in some cases, being entirely predigested, is preferable. In addition to the glass of punch, or of plain milk or cream, taken at bed-time, a glass of milk or cream, with or without alcohol, or a glass of wine or spirits, sometimes advantageously reinforced by half an ounce of liquid peptonoids, should be at hand to be taken in case of waking during the night or early morning. Liquid peptonoids with coca is a good preparation for this purpose; for coca, like strong coffee under similar circumstances, facilitates the return of sleep. When a sufficient quantity of food is not taken in the six times suggested, the frequency may be increased. While our object is distinctly "cramming," it is not well to so overburden the digestive apparatus as to give rise to positive discomfort.

The duty of the physician who feeds his cases of phthisis is

not finished when he has prescribed the diet, even in all its details; or when, in case of failure by natural methods, he has resorted to *gavage*, inunction or rectal feeding. He must prepare the stomach and intestines to welcome the nutritive materials furnished, and to prepare them for absorption. He must endeavor to remove obstacles to proper elaboration and assimilation, and to stimulate and assist these functions; not forgetting the respiration, which, in Arbuthnot's expressive phrase, "is the second digestion," or the circulation which is to cause the oxygen-carrying corpuscles and the nutrient lymph to penetrate into all the tissues. He must further watch, and if necessary assist, the processes of elimination, so that broken down, useless and sometimes toxic materials may be speedily removed to make way for that which will better and more vigorously assist in tissue-building and force-production.

This subject, including as it does the consideration of general and special hygiene, as well as mechanical, chemical and medicinal aids to digestion, respiration, circulation and excretion, simple and complex, must be indicated; but it cannot be properly studied in a paper which has already overrun its limits.

Yet one word more must be added, even at the risk of occupying too much space. Experience has demonstrated the utter futility of all measures designed to destroy the bacillus tuberculosis. A moment's reflection must convince us that even could we destroy every bacillus in the lungs, we would gain nothing; for the patient has only to open his mouth, to be invaded by a new host. So that whether we follow the opinion of the majority and assign to this microbe supreme ætiological importance, or whether we are content to remain in a minority which can at least boast among its numbers the most cultured and philosophical mind among medical men of the century, the experience of every physician and of every patient is in accord upon the all-important point that the secret of treatment is not microbicide, but NUTRITION.—*Dr. Solis-Cohen in The Dietetic Gazette, January*, 1888.

CANADA

Medical and Surgical Journal.

MONTREAL, FEBRUARY, 1888.

THE KNEE-JERK AND HOW IT IS MODIFIED.

Dr. Warren P. Lombard has published in the first number of the *American Journal of Psychology* a series of most interesting experiments on the above subject. This investigation was in part the continuation of a previous one undertaken to determine whether the knee-phenomenon is a reflex or the result of a direct mechanical stimulation of the muscle—an exaltation of the normal tone as it were.

In 1883 Ernst Jendrassik reported the observation that if the hands were clinched just before the ligamentum patellæ was struck, the resulting knee-jerk was greater than when the subject was quiet.

This discovery was carefully tested by Dr. S. Weir Mitchell and Dr. Morris J. Lewis, and they were further able to show that the knee-jerk was subject to most extensive variations even in health, and that it was probable that the variations were associated with and dependent on alterations in the activity of the nerve centres.

It is of interest to note that Dr. Lombard has in every particular confirmed by experiment the conclusions of Mitchell and Lewis as the result of observation. There is a great lesson in this. The experimenter must not despise the observer, nor the observer the experimenter; in fact, the two use methods differing only in degree, not radically—the so-called experimenter simply using more apparatus under more exact, though not always more natural, conditions. Why should not clinical observers more than at present contribute to the establishment of the laws of the normal organism on a broader and surer basis;

the more so as experiment in the peculiarly physiological sense is not usually possible on the human subject. The general conclusion from these investigations is that *the knee jerk is an extremely delicate indicator of the condition of the central nervous system.*

Dr. Lombard subjected himself for weeks to a routine, recording his knee-jerk under precise conditions several times a day, noting the temperature, barometric pressure, etc., so that many thousands of observations were accumulated.

The condition of the central nervous system is thus shown to be influenced by the time of the day, the taking of a meal, fatigue either physical or mental, the slightest movement, sensations of sound, light, etc., all kinds of mental excitement, holding the breath, temperature, barometric pressure, &c. In a word, it will be seen that these researches reinforce the views often referred to in this JOURNAL of the constant instability associated with our conception of life.

The knee-jerk even indicated the character of the dreams in sleep, showing a rise if they were of an exciting kind—a new light upon the condition of the central nervous system under such circumstances. We can now all the better understand how it is that after a long period of active dreaming, especially such as rouses emotions, there is subsequent exhaustion as though we had been deprived of a portion of our rest, as indeed is the case.

The influence even of the kind of music was evident, as will be clear from the following record: The average of the knee-jerk for a series of experiments just concluded was 32 millimetres. A band of music then passed playing, when the heights of the jerk were noted as 60, 71, 74, 70, 60, 55; another band immediately followed playing "My Maryland," when the knee-jerk rose to 62, 76, 76, 74, 71, 66, 59, 64, 59; this was succeeded by a drum corps, with the following results: 48, 55, 51, 55, 53, 49, 52; after the music had faded away in the distance, and only the ordinary sounds of the street, etc., remained, the numbers were 40, 45, 37, 30, 39, 53, 37, 29.

A great many thoughts are suggested by such results as these. No doubt we should thus be able to establish tests of

our expenditure of nervous energy from thought and emotion similar to those of Mosso, founded on the use of the plethysmograph as a measure of vascular changes. It is plain that though the knee-jerk may be of special value in nervous diseases, it is to a certain degree an index of the general condition of the nervous centres, and so of all those variations from the *norme* constituting disease. The main scientific lesson, however, is, as we think, the reinforcement these results give to that conception of life which represents it as associated with or dependent on incessant change; on ceaseless adaptation to an ever changing environment.

HÆMATOMATA OF THE CEREBRAL DURA MATER.

Dr. Wiglesworth, in the current number of the *Journal of Mental Science*, advances strong arguments in proof of the non-inflammatory origin of these subdural hemorrhages which at present are designated under the term "Chronic Internal Hemorrhagic Pachymeningitis." He looks upon the fibrous membrane as the product of the organization of the effused blood and not the result of inflammatory action in the dura. These effusions occur in the aged, and very frequently in the insane. They are apt to occur when from any cause there is atrophy of the cerebral convolutions, and Wiglesworth looks upon the hemorrhage as an attempt to fill the vacuum created by the atrophy of the convolutions.

THE AMERICAN PHYSIOLOGICAL SOCIETY.

December 30th was an auspicious day in the history of Physiology in America, inasmuch as it marked the formation of the first society on this continent for the promotion of physiological science.

The movement was organized by three of the leading physiologists, and a proposed constitution previously prepared was submitted to those interested when they met in New York at the new and magnificent physiological laboratory of the College of Physicians and Surgeons. The membership is to be limited to those who have themselves made and published at least one investigation in physiological science, or who have promoted and

encouraged original research in this department. It will be thus ensured that only those shall have a connection with the association who have shown both fitness and zeal.

It is proposed to hold a triennial meeting at Washington, when the leading medical specialists will be brought together to advance the common cause of medical science and the interests of each specialty.

The Physiological Society is, however, also to meet annually during the Christmas vacation for the purpose of transacting routine business and electing officers, as well as for the reading and discussion of papers.

The executive control of the Society is vested in a committee of five, consisting of a president, secretary-treasurer, and three others, all to be elected annually.

After the constitution had been adopted and the new laboratory of the College of Physicians and Surgeons, with its valuable apparatus, inspected, in response to the kind invitation of Dr. J. G. Curtis, director of the laboratory, the members of the infant society wended their way to the residence of this gentleman to partake of lunch. It was noticeable that of the entire party only one wore a fur cap, though the day was bitterly cold. It is needless to inform the readers of this JOURNAL that the owner of the said cap was the representative from Canada (Montreal), who, in consequence of the snow-storm of the day before, which delayed the train, came near being an absent member. He had, however, the happiness of being one of that little band of twenty, all known to each other by name and reputation, but meeting many of them for the first time, who constitute the original founders of a society which it is confidently believed will prove a source of great benefit to medical science, as it is sure to be of inspiration and encouragement to its members. The Society has been founded on a good, broad basis; and may it ever remain free from every species of narrowness, including that clique-forming tendency from which even scientific institutions are not always wholly free. It was regretted that the veteran Dalton was unable to attend owing to illness. The presidency of the Society was pressed upon Dr. Weir Mitchell, but he could not be induced to accept. No man in

America, perhaps, better deserves such an honor. His career has been unique. As a young man, a working physiologist, now one of the best known names in American medical science, but still a physiologist—even an investigating physiologist. With the enthusiasm of youth and the ripeness of years, he uses physiology to interpret medicine and medicine to light the obscure paths of physiology. Such an one is a sort of fulfilled prophesy of the manner of man the physician of the future will be—at least so we hope. Among the pure working physiologists of the day none had better claims to the place than Dr. Bowditch, and to him it has fallen to be the first president. Dr. H. N. Martin is to discharge the duties of secretary-treasurer.

Several questions arise in my mind. But twenty specialists to respond to the call for organization now, how many such members will form the body physiological after the lapse of twenty years? What will be the condition of physiological science then? What its influence on general science and on medicine in the interval? What the resultant of that influence after two decades have passed when some, at least, of the original founders shall in all probability have left the scene? Twenty years hence! Watchman, what of the night? T.W.M.

NOTES AND COMMENTS.

There is at present under observation at the Philadelphia Hospital an interesting case which illustrates, I think, the protracted course of gastric ulcer. A man aged 40, admitted Jan. 3rd, had been suddenly seized with hæmatemesis on the 1st, and brought up a large quantity—two quarts, he said—of blood; a second attack occurred on the 2nd, and a third on the day of admission. Blood was also passed in the stools. He was extremely blanched, very short of breath, and could not sit up on account of the dizziness and weakness. He was given ice, liquid food in very small quantities at a time, and bismuth. The blood count was below one million red corpuscles per cubic millimetre; on the second day in hospital the number sank to 770,000 per cubic millimetre. The hæmoglobin was about 20 per cent. The history was remarkable. He had the first hemorrhage in 1870

and was in the Pennsylvania Hospital for several months. He then returned to France, and had, within ten years, six or eight attacks, varying in severity. Returning to this country, he had, in 1883, a prolonged and serious attack, in which he nearly died. He lay for three months in hospital, and was five or six months before he recovered strength. On all these occasions he passed blood in the stools. He gives a history of irregular gastric distress in the intervals, but has weeks and months of freedom. Since leaving the hospital in 1883 he has been in the habit of using the stomach tube every two or three weeks when the sense of distress becomes aggravated. He has had at times attacks of intense gastralgia, so common in chronic ulcer of stomach and duodenum. The stomach is not dilated, nor is there any local induration to be felt, though, naturally, the examination has not yet been exhaustive. He is doing well, though on the 11th he had a hemorrhage from the bowels which brought down the red corpuscles from 1,179,000 to 816,400 per c.m.

I know of no condition other than ulcer which conforms to such a history. As is recognized by all the authorities, the time limit of ulcer may be extended to ten, twenty, or even thirty years, and many cases of the chronic hemorrhagic form have been reported very similar to the one under consideration. Whether in the stomach or duodenum cannot be definitely determined. The criteria for the diagnosis of duodenal ulcer are notoriously uncertain. One of the most satisfactory, viz, melæna without hæmatemesis, is present, but this may occur when the ulcer is within the ring.

Case XXXIX of my series of heart cases in connection with past attacks of chorea (*Amer. Jour. Med. Sciences*, Oct. 1887) died a few weeks ago, and by the kindness of Dr. Hewish I was enabled to see the autopsy. The lad, aged 13, had had chorea badly in '81, again in '82, and a third attack in '84. No articular rheumatism,—of this both father and mother, who are exceedingly intelligent people, are positive. A half-brother has had rheumatism; no other member of the family. Scarlet fever when three years old, not badly; no severe illness of any kind except the chorea. The heart was large; mitral orifice ex-

tremely narrowed—a button-hole slit—great hypertrophy of right ventricle; beginning stenosis of tricuspid orifice. This case illustrates some of the difficulties in the pathology of chorea. Was the heart lesion the outcome of an endocarditis accompanying the original attack in 1881? Is there a choreic endocarditis apart altogether from a rheumatic taint? Or shall we say that the very fact of an endocarditis is sufficient to prove the rheumatic nature of the case. My study of 110 patients more than two years subsequent to the attacks pointed to the conclusion that the cardiac affection in chorea was usually independent of rheumatism, and this case might fairly be claimed as an illustration of an organic and fatal heart lesion associated with chorea. But there is just this doubt. Is it possible within six years—1881 was the date of the first attack—to have such an extreme grade of stenosis induced in the mitral and a secondary sclerotic thickening of the tricuspid? I scarcely think so, though I have no data to go upon in forming an opinion as to the length of time required to narrow the mitral orifice to shirt button-hole size. It is probable that the primary attack of endocarditis, which initiated the morbid changes in the valves, antedated the chorea, and may have had its origin in a trifling, overlooked rheumatic attack (such as is not uncommon in children), in a tonsillitis, in the attack of scarlet fever, or in whooping-cough. These latter affections may, I think, be blamed for a certain proportion of the cases of mitral disease in which the most careful scrutiny fails to detect rheumatic history.

Dr. Weir Mitchell's volumes of Essays, entitled *Doctor and Patient*, while meant for women, may be studied with profit by readers of all classes, lay and medical. Probably no man living has had a wider experience with nervous women, to which large audience these lay sermons are addressed. The four last Essays, Pain and its Consequences, The Moral Management of Sick or Invalid Children, Nervousness and its Influence on Character, and Out-door and Camp-Life for Women, are well adapted to fulfil their purpose, as they deal "helpfully with some of the questions which a weak or nervous woman, or one who has been there, would wish to have answered." A charmingly-written

Essay on *Convalescence* describes the delightful sensations, mental and bodily, attendant upon recovery from serious illness. In remarks upon the value of novels during this period, Dr. Mitchell takes occasion to discuss the Doctor in fiction, and concludes that, with the exception of Lydgate in George Eliot's Middlemarch, he is wholly unsatisfactory.

We may gather from these Essays the secret of Dr. Mitchell's great success—a naturally keen intellect, strong professional instincts of the best kind, a profound knowledge of human nature, particularly of the frailer portion of it, and living faith in the value of dietetic and hygienic measures in the treatment of the sick.

WILLIAM OSLER.

Medical Items.

—Dr. Arthur Farre, the elebrated obstetrician, is dead.

—Dr. J. H. Darey (McGill, '85) is practising in Cresco, Iowa.

—Professor Kussmaul, after a long and brilliant career, has retired from the directorship of the Klinik for Internal Medicine in the University of Strassburg. He is to be succeeded by Prof. Naunyn of Königsberg.

ADVANCED PHARMACY.—John Wyeth & Brother have recently introduced compressed tablets of the newer antiseptics and antipyretics. Physicians can now order antipyrine or antifebrine in tablet form, each tablet containing five grains. From some experience, we can confidently recommend these tablets as not only a highly convenient and pleasant way of administering these agents, but also as being in every respect a perfectly reliable method.

CANADA

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Original Communications.

THE INDUCTION OF PREMATURE LABOR IN THE ALBUMINURIA OF PREGNANCY.*

By George T. McKeough, M.D., M.R.C.S., Eng., F.O.S., Lond., Chatham, Ont.

The subject I have chosen for discussion this evening is a peculiarly interesting and practical one, owing to the intense anxiety and grave responsibility that must affect a physician when consulted by a pregnant woman, and an examination of her urine shows some considerable quantity of albumen and hyaline casts, knowing full well that this condition, if not relieved, may ultimately terminate in one of the most fatal exigencies of the puerperal state, while the serious responsibility of undertaking as a preventive measure the induction of premature labor cannot be regarded but with some apprehension.

The following brief clinical records are offered in the hope that they may in some degree contribute to the sum of that knowledge which may ultimately accumulate sufficiently to enable us to act with more unerring precision in the always serious and too often fatal cases, and at the same time afford a text for a few remarks I desire to make in conclusion.

Case I.—A multipara, aged 40, who had been a widow for a number of years, but married again about a year previous to my attendance, her youngest child being 16 years old. When I was called she had had regular labor pains for several hours, but the os uteri was rigid and but slightly dilated. She supposed

* Read before the Detroit Medical and Library Association, Feb. 6th, 1888

that she was about eight months pregnant, complained of frontal headache and slight nausea, but there was no anasarca or dropsical effusions. The nervous symptoms directed me to an examination of her urine, which was found to contain a small precipitate of albumen. The injection of a quarter-grain of morphia hypodermically relieved the nausea, modified the cephalalgia materially, and soon relaxed the rigid os uteri. A dose of Epsom salts was also administered, and acted freely on the bowels. Labor progressed slowly, she being confined six hours after my arrival of a *dead child*. Basham's mixture was ordered, the albumen quickly disappeared from the urine, and the convalescence was as rapid as in any ordinary case.

CASE II.—A vigorous, robust Scotchwoman, mother of two healthy children, and at the time I was consulted was pregnant about 8½ months. During the preceding fortnight she had suffered much from œdema of her feet and legs, and had several attacks of severe headache. When I first visited her, she referred to severe pain in the frontal and occipital regions, but there was no nausea or amaurosis. She was voiding about a pint and a half of urine in twenty-four hours, which was about one-third albumen. A skim-milk diet was ordered, with a vapor bath and a sufficient quantity of sulphate of magnesia to keep her bowels relaxed. The next day all her symptoms were apparently improved: the urine had increased in quantity and the headache was partially relieved. Unfortunately, however, during the following night her symptoms again became aggravated, and about noon the succeeding day, in spite of a vapor bath, which caused profuse diaphoresis, and a dose of salts, which acted freely on the bowels, she had a convulsion. I was sent for immediately, but before reaching her a second convulsion occurred. On arriving, I at once extracted about a pint of blood from her arm, injected half a grain of morphia under the skin, and had artificial heat applied about her body. This was about one o'clock in the day; at three o'clock, becoming very restless, I again injected a quarter-grain of morphia. In a few hours labor pains came on spontaneously, and about nine o'clock that evening I delivered with forceps, the child, however, *being*

dead. She had no more convulsions after the venesection, although she remained unconscious until the morning following her labor. Her after recovery was as good as could be expected.

CASE III.—Reported in *Canadian Practitioner* for January, 1886. A case in which albuminuria, partial suppression of urine, with marked œdema, but no nervous symptoms, existed when I was first consulted. Attempts were made by diet, hydragogues, diuretics and jaborandi to relieve her pathological condition, but on the third day of treatment convulsions ensued. Labor came on spontaneously during the convulsions. The child was born dead, the mother recovered temporarily, but died in about a year later from chronic Bright's disease.

CASE IV.—An old primipara, but a strong, powerful woman, in the eighth month of pregnancy, came in from the country to consult me in regard to extensive swelling of her feet and legs. Inquiry elicited no manifestation of nervous disturbance, but an examination of her urine revealed albumen in large quantities. She was advised to remain in town under medical supervision and treatment, which she did for seven or eight days, during which time her bowels were kept relaxed with bitart. of potash, and her skin was acted upon freely by means of a hot bath daily. At the expiration of about a week she returned home, feeling much more comfortable. Her instructions were to live on milk and buttermilk, to keep her bowels relaxed with salines, and to take a hot bath every other day. I was hurriedly summoned a few days subsequently to her accouchment, and on arriving discovered the child *born dead.* Her labor from its commencement to its termination not lasting longer than three hours, no convulsion occurred, and she made a good recovery. She has since had two living children, but no return of albuminuria.

CASE V.—A Frenchwoman, aged about 40, resided in Pain Court, six miles from Chatham, mother of a very large family. Was hastily called in company with Dr. Holmes, and on reaching the home of our patient found that she was about seven months pregnant and had had two convulsions about an hour apart. Her urine, withdrawn with a catheter, presented a heavy precipitate

of albumen when treated with heat and nitric acid. There was much general œdema, and we were informed that previous to her first fit she complained of severe frontal headache and dimness of vision. One-half grain of morphia was given hypodermically at once, a large dose of Epsom salts was also administered, and artificial heat was applied about her body until she sweat profusely. Under treatment she improved; no more convulsive seizures occurred at that time, all other signs of nervous derangement subsided, and we were in hopes she would progress favorably to her full term. The albumen, however, did not disappear from her urine, nor did œdema entirely leave her extremities. Unfortunately, about ten days afterwards, without any nervous premonitions, she was suddenly seized with a violent convulsion. Before I was enabled to reach her she had several more; fit after fit followed one another with awful violence. Shortly after my arrival, and just as I had commenced to administer chloroform, another severe paroxysm distorted her, during which the fœtus was expelled spontaneously. She was kept under the influence of the anæsthetic for a short time; no more convulsions attacked her, but she remained in a condition of semi-coma, which gradually became more profound until death closed the scene some hours after.

Case VI.—A primipara aged 20. I found this patient, who was nearly nine months pregnant, lying upon a sofa, restless, sightless, unable to give any information concerning herself, and with slight œdema of her legs. I was informed that with the exception of an occasional headache, she had made no complaints regarding her health until the morning I was called, when she awoke with a headache. An examination of some of her urine passed that morning showed a small quantity of albumen. While carrying her to bed shortly after, she had a convulsion. Pilocarpine was injected subcutaneously and chloral per rectum at once; a few drops of croton oil were given later. Six hours after the first convulsion she had a second slighter one, and again in two hours a more severe one, remaining unconscious between the fits. After the third convulsion, the cervix showing no signs of dilating, an aseptic gum elastic catheter was passed carefully

for about six inches between the membranes and uterine wall. To overcome the restlessness, one-quarter grain of morphia was injected under the skin, and this was repeated from time to time when found necessary. The skin was kept moist by hypodermic injections of pilocarpine. She was safely delivered sixteen hours after the introduction of the catheter, there being no more convulsions. The child, however, was dead. Her subsequent progress was good.

Case VII.—A primipara aged 19, nearly nine months pregnant; had several convulsions before she was seen. There was complete suppression of urine; unable to procure any for examination. Very œdematous. I was informed that she had suffered from headache and dimness of vision for a week or more before convulsions occurred. Efforts were made to control the fits by chloral, morphia and chloroform, but unless profoundly under the anæsthetic convulsions would occur. Labor was then induced by introduction of a catheter and digital dilatation of cervix. A dead child was delivered with forceps, and the mother died two days afterwards apparently from exhaustion.

Case VIII.—Mrs. F., aged 25. Has had two children and a miscarriage, and when my colleague, Dr. Holmes, was consulted, was 7½ months pregnant, suffering from swelling of the face, hands and feet, severe pain on one side of the head, and vomiting. Urine abundant in quantity, but one-quarter of the tube precipitates after heat and nitric acid. Her previous labors had been normal. A hydragogue cathartic was given, which purged thoroughly. She was also made to sweat freely, and one-quarter grain of morphia was administered to quiet nervous symptoms. The following day her symptoms were much improved, the swelling had abated some, the vomiting stopped, and there was no pain in the head. The specific gravity of the urine was 1022. The quantity was less, and the amount of albumen which coagulated in the tube had increased. Notwithstanding, it was decided, after a consultation, advisable to induce labor, which was accomplished by passing a catheter as in the other cases. Pains commenced about six hours after the catheter was intro-

duced, when it was removed by the nurse, and the pains ceased for some hours; the same instrument was again introduced, pains soon set in, and terminated labor without any accident in about eight hours, the child *living*. The mother made a perfect recovery.

CASE IX.—Mrs. M. W., aged 24, an anæmic primipara. At the beginning of the eighth month of pregnancy she observed some partial suppression of her urine, and at times suffered from slight headache and nausea, with occasional attacks of impairment of sight and some œdema of face and lower extremities. An examination of her urine microscopically showed hyaline casts, and on boiling and adding nitric acid, the coagulum in the tube was fully one-half of the contents after standing some time. The quantity passed was not more than six ounces in twenty-four hours. She was confined to bed, her skin kept moist, and diet almost limited to milk. A mixture of digitalis and acet. of pot. was given at regular intervals; bowels were kept relaxed, first with a compound jalap powder, afterwards with cream of tartar. This treatment was continued for a few days, elixir of iron and gentian being substituted for the diuretic mixture which disagreed with the stomach, with but slight amelioration of her symptoms, when it was decided to induce premature labor. Pains commenced an hour after the catheter was placed in position, and labor terminated in about twelve hours afterwards. She vomited once during labor, and had a slight hemorrhage for two days following her confinement. The albumen gradually left her urine, and she made a good recovery. The child was alive, and is at present a beautiful, healthy little girl. Three years after, the woman was confined again naturally, no renal symptoms manifesting themselves.

CASE X.—Mrs. J. E., aged 26, was pregnant eight months with second child when she was seen casually. Stated she never felt better, had a good appetite, bowels regular, no œdema, nausea or headache. Thought she passed a quart of urine in twenty-four hours. Specific gravity 1030. The tube contained one-sixth albumen after treating in the usual method. Hygienic,

dietetic and medicinal treatment were instituted in this case and continued for about ten days, but with no effect upon the character of the urine, and without preventing indications of serious disturbance of the nervous system. It was then considered advisable, both for mother and child, to excite premature labor. A catheter was used as in former cases. It was inserted about eight o'clock in the evening; during that night there were but slight pains. The amniotic fluid escaped the following morning about nine o'clock, shortly after which pains set in and concluded labor the same evening at 10 o'clock. The patient felt very well for two hours; afterwards she had a slight hemorrhage and became somewhat restless. While using a hot intra-uterine douche she had a moderately severe convulsion, followed shortly by a prolonged shivering spell. Her temperature immediately rose to 104°F., and pulse 160. Morphia half a grain, with atropia 1-100 grain, was injected subcutaneously; brandy, digitalis and antifebrin given by the mouth. The pulse and fever rapidly fell, and by morning the temperature was normal and pulse 100. From this time recovery was speedy, with the exception of a distressing headache for a day or two. Within a week the albumen disappeared from the urine. The child was alive, and has grown to be a fine healthy boy.

The last three cases were under the care of my partner, Dr. Holmes. I had the opportunity of seeing them frequently in consultation, and through his kindness I am permitted to add them to this paper.

Case XI.—Mrs. B., aged 24, primipara. When I was first consulted she was nearly eight months pregnant, suffering from an agonizing headache, disturbance of vision, nausea, and œdema of eyelids, hands and lower extremities. She supposed she was passing about a teacupful of urine in twenty-four hours. Sweating was at once induced with jaborandi and artificial heat, and a hydragogue which acted quickly upon the bowels. A large dose of bromide of soda was also given. During the three following days her bowels were kept freely open with hydragogues and her skin active by the application of heat about her body. The nervous symptoms subsided, the œdema also to a certain

extent, and the urine on the third day increased somewhat in quantity, but the albumen coagulated fully seven-eighths of the urine tested. On the afternoon of the third day after treatment had begun she got out of bed and sat in a warm room for a few hours, when she was suddenly seized with a severe pain in the epigastric region. Carminatives and soda failing to relieve her, she was given hypodermically one-eighth of a grain of morphia, which was repeated in an hour. The following morning, not having passed urine for twelve hours, and twitching of the facial muscles being quite marked, a catheter was introduced into the uterus. About three hours subsequently, intermitting groans from the patient indicated that labor had commenced. Sixteen hours after steps were taken to induce uterine contractions she was delivered with forceps of a living child. After the injection of morphine for the epigastric pain referred to she continued in a state of semi-consciousness until about twenty-four hours after her accouchment. During her labor muscular twitchings occurred frequently, and as the head of the child began to press upon the perineum a convulsion occurred. The forceps were immediately applied and the child delivered as rapidly as was judicious. One-third of a grain of morphia was injected hypodermically, and she was kept partially under the influence of chloroform until all twitchings ceased. After recovering consciousness she suffered severely for several days from pains in her back and head. These were relieved temporarily by 15-grain doses of antipyrin. Within fifteen minutes after taking the drug she would pass into a quiet sleep. She commenced to pass from one to two quarts of urine daily almost immediately after the birth of the child, and within a month the albumen had disappeared from the urine.

Remarks.—To recapitulate briefly, of these eleven cases of albuminuria, nine mothers recovered and four children were born alive. One case in which convulsions did not occur was not seen until labor had set in naturally; the mother made a good recovery, but the child was still-born. In the four cases in which temporizing measures were instituted until labor came on, convulsions occurred in three, one mother died, and three recovered; the child perished in all four. In the two cases in

which labor was excited after convulsions occurred, both children were born dead, one mother recovered, the other died. In the four cases in which labor was induced after a temporary trial of expectancy, but before convulsions took place, all the mothers made good recoveries and the four children lived.

The question of when to induce premature labor in these cases is *sub judice*. Whenever discussed, there is usually great diversity of opinion expressed. Some eminent authorities, such as Fordyce Barker and Playfair, maintain that it should be undertaken only in a limited number of cases, and that in these exceptional cases the indications must be confirmed by other symptoms than that which are to be discovered by an examination of the urine. This advice may be adaptable to a city practice, among the intelligent and the rich, where the most careful supervision can be maintained and attention to the smallest details is carried out religiously and systematically. In country practice this is often impossible; a physician is seldom consulted by a pregnant woman until called to her accouchment. Headache, nausea, slight swelling of the feet and legs are symptoms so commonly met with in pregnant women, that the ignorant, knowing nothing of their significance in some cases, pay but little heed to them until the fatal paroxysm occurs, when the obstetrician may be miles away, with almost impassable roads between him and his patient.

The great difficulty in many of these cases is to know when the time arrives for expectancy to cease and surgical measures to begin. The quantity of albumen in the urine is no certain criterion of the extent of the toxæmia existing; in some of the most alarming cases there are but slight traces of albumen, in a few, I believe, none at all; in *Case V* of my series, the urine passed about two hours before a convulsion, and when she was suffering from a severe headache, did not coagulate more than one-tenth in the tube after boiling and adding nitric acid.

In a recent lecture by Dr. Whitaker of Cincinnati on chronic Bright's disease, which will probably hold good in cases of albuminuria of pregnancy to a degree at least, it was pointed out that the nervous symptoms showed themselves in inverse

proportion to the dropsy. That the dropsical effusions form reservoirs for the excess of urea not eliminated by the kidneys: hence the amount of œdema or dropsical effusion present will not give any definite indication for interfering surgically, as some of the most urgent cases may present but very little swelling of the body.

Again, it has been stated that labor should never be induced until the nervous sentinels give the alarm, but I have seen two cases at least of convulsions, one of which ended fatally, in which the nervous premonitions preceded but a few minutes the onset of an eclamptic seizure. One of these cases, read before the Canadian Medical Association in 1885, was a young pregnant woman apparently in robust health, who while taking a bath on a summer's day, about two hours after a hearty meal, became suddenly sightless, reeled, and almost immediately became unconscious and went into a convulsion. Another case, seen with Dr. Pomeroy of Dresden, was a young primipara, about seven months advanced in pregnancy, who arose and dressed herself one morning, milked several cows, prepared her husband's breakfast, and seemed perfectly well. During that meal she spoke of a headache and almost immediately had a fit. In spite of our efforts the convulsions continued, and she died in about twenty-four hours.

Judging from cases like these, it is manifestly unwise to await the appearance of nervous signals before resorting to the induction of premature labor. The evidence, therefore, of the approach of convulsions must be uncertain and unreliable, and if we cannot obtain satisfactory indications from the urine, it is certainly not always safe to remain inactive till nervous disturbances become pronounced.

I believe it to be also indisputable that the albuminuria is due to mechanical and other causes consequent upon the pregnant condition. This is shown by the rapid disappearance of albumen and increase in the quantity of urine immediately after the delivery of the child, except when the kidneys have received irreparable damage. Therefore if these causes are removable by a procedure almost devoid of danger, if carefully undertaken

and carried out, and in view of the desperate outlook presented by these cases from permanent damage to the kidneys, albuminuric retinitis, with, may be, permanent impairment of vision, anæmia, exhaustion and eclampsia, I am convinced of the necessity for the regular and systematic examination of the urine of all pregnant women, and if albumen be found, with hyaline casts and a deficiency of urea, of the advisability of inducing premature delivery when pregnancy has advanced to or beyond the seventh month, and the symptoms do not immediately and substantially improve under treatment.

This rule would not apply to cases of pregnancy occurring in chronic nephritis, which would be differentiated by a microscopical examination of the urine, and in which surgical interference might prove dangerous. Moreover, in true nephritis the nervous centres acquire a certain tolerance and eclampsia is not then so likely to occur.

Nor yet do I think it would be wise to at once resort to the procedure if one be not called to a case until nervous phenomena such as headache, disturbance of vision, etc., are present to a marked degree. It would be safer, under these circumstances, to first act upon the various emunctories, eliminating as much of the poison as possible, and by appropriate sedatives allay nervous irritation to an extent that uterine pains would not be an additional factor in the production of an eclamptic attack.

Even in those cases in which expectancy is carried out successfully as regards the mother, who after a most anxious season of doubt and fear escapes unscathed, the danger to the child is so imminent as to receive our serious consideration.

The instructive paper by Drs. Charpentier and Butte at the Washington Congress, on experimental uræmia, pointed out conclusively that the child might be killed by a direct intoxication of the maternal blood surcharged with urea; the clinical history of my cases bears out the experimental research in a most emphatic manner. Out of my eleven cases the child survived in only four, and in these labor was induced. This is, I think, a powerful argument in favor of the production of premature labor in the albuminuria of pregnancy.

One of the strongest objections to this measure is the fact that it does not always prevent convulsions, as in the last two cases of my series. I believe, however, that if, in these cases, interference had been invoked earlier the convulsions would not have occurred, and that the induction of labor is too often delayed until an extreme irritability of the nervous centres renders convulsions unavoidable.

In conclusion, it is known that many processes observed in disease are of a conservative nature—*e.g.*, the sweating in rheumatic fever, the diarrhœa from offending matter in the alimentary canal, the vomiting from indigestion, and, as Dr. Whitaker has pointed out, the œdema in albuminuria. It is fair to conclude that the frequency of spontaneous expulsion of the fœtus in puerperal albuminuria is of the same nature, and should direct our attention to this the natural way to recovery. In six cases of the series here given labor came on without assistance, two before and four after convulsions took place. It would appear from this that we are only following in nature's wake in resorting to surgical interference in these cases.

QUARTERLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

PREPARED BY WM. GARDNER, M.D.,

Professor of Gynæcology, McGill University; Gynæcologist to the Montreal General Hospital; One of the Vice-Presidents of the British Gynæcological Society.

Results of Supra-vaginal Hysterectomy, with Remarks on the old ways and the new of treating Uterine Fibroids, by Dr. Thomas Keith, Edinburgh.—This is the title of a paper appearing in the *British Medical Journal* for Dec. 10, 1887, and in it Dr. Keith gives the results of his last 26 cases, making a total of 64. The first 38 were published in a brochure appearing some years ago. The series shows a striking difference in private and hospital work. Of the last series of 26, all patients operated on outside the hospital recovered. The fatal cases were all in the hospital. Of the whole series of 64 cases, 26 were private cases with one death (3.8 per cent.) from acute mania. Of 38 hospital patients, 6 died, or 15.7 per cent. The private patients had larger tumors, and they were more drained by hemorrhage

than the hospital cases. The reason alleged being that they are better able to take care of themselves, and do not need interference so soon. Of the whole number of hysterectomies, five suffered from acute mania. When the attack followed quickly on the operation, the patients died; if during the convalescence, they recovered. In some of the last series the intra-peritoneal method of treating the pedicle was employed, and Dr. Keith claims for it the best results, although he does not give the proportion of the whole so treated or describe the method employed. The average time of convalescence in the extra-peritoneal or clamp cases was 41 days; of the intra-peritoneal, three weeks. With reference to enucleation, Dr. Keith remarks that it has given him the smallest mortality of all the operations for myoma. He has lost only two of many operations. He considers it the most difficult of all the operations on the uterus. He says there is a secret in its performance, but does not tell us exactly what that is, but says that it must be completed at one determined operation. If the os uteri be not open, it must be freely divided and afterwards sutured if necessary. Rigid antisepsis is essential. He concludes his remarks on this operation by saying that "it requires greater care, greater patience, and greater endurance than any operation I know." For his statistics of supra-vaginal hysterectomy, Dr. Keith claims, and I believe justly, that they are the best yet published, and this lends the greatest possible interest to what he next says on the Apostoli methods of treatment of myoma. I transcribe his remarks in full:—

"Fortunately for those affected with uterine tumors, it now matters little which of the old ways of operation is the best, whether the ovaries can be removed or not, whether the extra- or intra-peritoneal be the better way of performing hysterectomy, or whether the convalescence lasts in the one case six weeks or in the other twenty days, the treatment introduced by Dr. Apostoli must take precedence of all others. The success of this treatment is a great fact, and in saying that I accept *toto animo* his teachings. I do not speak without some experience of his practice. We have already—my son and I—in scarcely five months, applied electricity in strong, accurately measured doses

upwards of 1200 times, in considerably more than one hundred patients, the majority in cases of uterine fibroids. The labor has not been small—indeed it has been very hard—and it is not easy to get the science of the subject into an old head. On the other hand, it has opened out a delightful study, which increases in interest every day the deeper we get into it. When I came back from my holiday in the beginning of July, there were waiting for me several cases for hysterectomy or for the removal of the ovaries for bleeding fibroids, and there have been others since. These have all gone home without operation, and with menstruation almost normal, improving after their return, and with the tumors in every case reduced in size, with pain gone, and with a freedom to walk about and enjoy life such as they were long strangers to. In one case only has there been a return of hemorrhage. The tumor had gone down two-thirds, she was apparently well, and, unwilling to detain her longer in town, she was allowed to go home too soon. All were more than pleased to have escaped the risks and miseries of a surgical operation that at once put their lives in peril. We—every one of us—consider far too lightly the miseries that such operations cost our patients and their friends.

"Should these improvements be permanent (and we have Dr. Apostoli's word for it that if the treatment be carried out long enough such is generally the case, and, so far, I am able to endorse almost every statement that he has made), it follows that the field for hysterectomy and for the removal of ovaries for fibroids is narrowed down to the smallest limits. I have never been in favor of hysterectomy, simply because its death-rate is so high and because it is performed for the removal of a tumor that rarely kills. So strongly do I now feel on this subject, that I would consider myself guilty of a criminal act were I to advise any patient to run the risk of her life—and such a risk—before having given a fair trial to this treatment, even were I sure that the mortality would not be greater than that which hysterectomy has given me in my private cases—under four per cent."

I believe I am safe in saying that such testimony from such

a man as Keith, and with such a record, will do more to popularize the Apostoli treatment than anything else hitherto written in the English language. I may add that for several months past I have been trying the treatment in myoma and the other conditions in which Apostoli advises it, and so far with most encouraging results, some of which I hope shortly to publish.

On a New Treatment by Electricity of Peri-uterine Inflammation.—This is the title of a paper read by Dr. Apostoli in the section of Obstetrics at the last meeting of the British Medical Association, held in Dublin last August. After alluding to the complex nature of the inflammations of the structures about the uterus and the frequently futile results of the ordinary methods of treatment, and referring to his previous communications on the subject, the author first speaks of acute perimetritis. He justly remarks that it is the common feeling of the profession that a palliative treatment is all that can be adopted in this disease, and that usually all that is done is to order soothing applications to the abdomen. He protests against this, and claims that by electricity good can be done in calming pain and arresting inflammatory action. He faradises every woman suffering from acute inflammation, observing the following precautions:

(*a*) I proscribe every faradisation that would cause the least pain, and expressly that of quantity, engendered by the bobbin with short and thick wire.

(*b*) I use for such cases the bobbin with long and thin wire, from which I obtain a current of tension, on account of its specially anodyne effects.

(*c*) I begin with a simple vaginal application, by means of a large bipolar electrode, the point of which is placed against the inflamed part.

(*d*) I only employ a current easily bearable, so as to cause no suffering nor any excitement of the patient, as this would ensure an entire failure of the treatment.

(*e*) All the success of this medication depends upon making the first sittings sedative, so that they may serve as a prelude to more active measures; and the faradisation will only become hyposthenic on the double condition of its low intensity and its long duration.

(*f*) Each sitting should last five, ten, fifteen, twenty or twenty-five minutes, as may be required, and should not terminate before the patient spontaneously declares that she is better and suffers less.

(*g*) It is necessary to reinforce what has been said by dogmatically averring that no success will come out of this treatment unless it be managed, not only without violence, but with extreme gentleness.

(*h*) Every faradisation should be preceded and followed by a vaginal irrigation with the sublimate solution, and all the sounds be scrupulously disinfected.

2. *The Subacute Stage.*—As soon as the sound can be introduced into the uterus without much pain and without danger, I consider this stage to have set in, and it requires some alteration in the treatment. Intra-uterine medication is now necessary, its force being increased gradually. It is here that we can advantageously combine faradisation with the continuous current.

(*a*) I recommend, first, bi-uterine faradisation, because we desire to prolong in the uterus the same anodyne effect that we sought for in the vagina. We must therefore faradise the uterine cavity. The current must always be that of tension. The intensity is increased by advancing the bobbin, and this must be done as softly as possible, without any jerking, till we reach the limits of personal tolerance. Every day the current may be repeated, until an evident amendment is taking place and the inflammation is giving way. This will be the indication for still more decided action, when we must call to our aid the constant galvanic current.

(*b*) The use of the intra-uterine galvanic current, in small but gradually increasing doses, is the second part of the treatment which we have to offer to the patient, with a view to more rapid progress in the cure. Here the action is purely chemical, dynamic and stimulant, and intended to stop any tendency to suppuration, and to accelerate the absorption of the morbid deposits.

We must begin with short sittings of only three or four minutes, with an intensity of not more than twenty to forty

milliampères. After a while both dose and time may be augmented, and we have no better guide to trust to than the ease with which the patient can support the intra-uterine cauterisation. The most exact care must be taken not to transgress any of the rules I have laid down for the safe performance of the operation, never omitting the diligent observance of every antiseptic precaution.

One or two sittings a week may be made, regulating the intervals by the strength and condition of the patient. Rest in bed after each operation must be enforced.

The early cauterisation should be with the positive pole, as it occasions less congestion than the negative.

The negative cauterisations, having a greater derivative power, must, however, be brought to bear as soon as we can make out, by the way in which the action of the positive pole is tolerated, that they can be aptly and beneficially employed.

The surgeon must never lose sight of the fact that, with his patient on the confines of an acute stage of disease, he is handling a curative agent which, while capable of rendering great service, may also by indiscreet and inexperienced usage do her grievous mischief.

To sum up this part of the subject: These two stages of acute and subacute perimetritis are difficult to overcome, and our great effort must be to get rid of them and to place the patient in that chronic state in which our action will be more clear and definite."

3. *The Chronic Stage.*—While enjoining much caution in the electric treatment of the acute and subacute stages, in the chronic stages Apostoli advocates bolder use of the agent. Now the intra-uterine galvano-cauterization must be pushed to its highest pitch and then the vaginal negative puncture of the mass of inflammatory exudation. This is to be done with all antiseptic and other precautions. The immediate result within the first few hours is some intestinal and uterine pain, which subsides rapidly. Rest in bed for two or three days is desirable, if possible, but the author's experience shows that it is not absolutely necessary. In two or three days the pain and tenderness are diminished and the pelvic obstruction lessened.

The use of an anæsthetic will often be desirable, because punctures are more painful than cauterizations. But in many this is not necessary, or may be replaced by a full hypodermic of morphia. If the anæsthetic be used, a high intensity ought to be used—50 to 250 milliampères; the duration five to ten minutes. The best time of the month is midway between the menstrual periods, but this is not essential. The frequency of application will depend on the case; sometimes one is enough; in general cellulitis eight or ten may be needed. The site of puncture must be in the most prominent part of the mass as felt through the vagina, and as close to the uterus as possible. The mass is usually either lateral or posterior. As much as possible the punctures should be in the posterior parts, avoiding any part where arterial pulsation is felt. Platinum is not essential for the material of the trocar; steel answers better, and is not attacked by the negative pole. The depth of the punctures may be slight, as efficiency is not increased by the depth, and there is less danger of wounding the peritoneum or blood-vessels in slight punctures. The most perfect antiseptic precautions should be used. The vagina is to be washed out with sublimate solution, and on completing the operation a plug of iodoform gauze introduced to further secure antisepsis and to prevent coitus. The author sums up as follows:

1. Electricity in the form of faradic currents of tension can and ought to be made to calm the pain at the outset of an acute attack of perimetritis, and is a sedative of the first importance in abridging the first stage of inflammation.

2. The continued current is a power which we use in two ways; first, in the form of intra-uterine chemical galvano-cauterizations, to cut short the acute stage; second, as vaginal, negative, galvano punctures, to get rid of the chronic condition in all its forms and stages.—(*Brit. Med. Jour.*, Nov. 19, '87.)

On Some New Applications of the Induced or Faradic Current in Gynæcology, by G. Apostoli, M.D.—Dr. Apostoli claims for France and for Dr. A. Tripier of Paris priority in the employment of the induced current in gynæcology. Tripier believes that all inflammatory conditions of the uterus arise from

interstitial or intra-vascular inertia, and that this inertia, mostly post-puerperal, deranges the circulation and causes congestion and stagnation, and arrest of nutrition of the organ. By the artificial stimulus of faradisation he claims to excite and reestablish the circulation and attain the double end of cure and prevention. In this exclusive pathology Tripier overlooked the influence of septic causes in producing pelvic disease. Apostoli claims to have demonstrated that it is mainly from lesions of the mucosa that by continuity the parenchyma of the uterus is involved. He claims also to have shown that although the faradic current is all-powerful in relieving the early and purely mechanical forms of congestion, as in cases of simple subinvolution, it is, on the other hand, useless in chronic forms and in affections of the mucosa. This is accounted for in very chronic cases by the partial disappearance of muscular fibre and its replacement by connective tissue, which is not acted on by the induced current. When the mucosa alone is at fault, then the continuous current is the agent to select.

Tripier's method of faradisation was by applying one pole to the interior of the uterus and closing the circuit by an electrode to the hypogastrium. Apostoli's method is a bipolar sound to the interior of the uterus. By this method he claims that there is less pain; it is easier, as no assistant is needed to hold an electrode to the hypogastrium; it is less painful and the dosage may be increased; and, lastly, the effect is greater, as, other things being equal, the therapeutical effect is in proportion to the intensity of the current. Another and most important improvement claimed by Apostoli is the methodic employment of the current of tension as distinguished from the current of quantity. No apparatus for faradisation is complete without two independent bobbins or coils, which, according to the length and thickness of the wires, give currents differing in qualities and characters. The coil with short, thick wire gives the current of quantity, because the generating wire is less resistant and lets pass a greater quantity of electricity. This current is the direct excitant of muscular contractility, and is the only one employed by Tripier to overcome muscular inertia, to produce a temporary

vascular activity, and to carry out his treatment of uterine congestion. The other coil, with a longer and finer wire, is called the bobbin of tension. This current acts less on muscular contractility, but acts more on sensibility. It is therefore employed where pain is a prominent symptom, in order, by a contrary reaction, to deaden a too violent nervous vibration. Such revulsive action on the skin is no novelty, but as yet too little resorted to in gynæcology. Pain is perhaps the most frequent symptom which leads women to seek for relief. In examining the sources of such pain, it is found to be inflammatory or nervous. It will be admitted that most routine treatment for such pain is useless or only palliative. For such pain many women have been needlessly mutilated by the removal of their ovaries and fallopian tubes, and often, it must be added, uselessly. Such pain can often, it is claimed by Apostoli, be cured by electricity in this form of the faradic current of high tension from the coil of long thin wire. It will, he asserts, cure 19 out of 20 cases of nervous ovarian pain; while inflammatory pains may in many instances also be mitigated, if not cured. For this purpose the applications may be made either intra-uterine or intra-vaginal, always bipolar—that is, both poles in one electrode. The intra-uterine bipolar electrode is a sound so constructed that both poles exist in the instrument within three-quarters of an inch of each other, and the current is completed by contact with the mucous lining of the body of the uterus, against which the sound lies when it is introduced. The vaginal bipolar electrode is constructed on similar principles, but is bulbous. When practicable the intra-uterine method is to be selected as the most active, but in pregnancy, certain cases of virginity, and in the acute stage of peri-uterine inflammation, it is not practicable. The length of the sitting, whether five or 20 minutes, is an essential condition to success. It must not end till the pain is relieved or has disappeared. The sittings should be frequent, daily or twice daily. The number of sittings will vary. They must sometimes be numerous, but often two to five are sufficient to relieve pain that has lasted years. The dosage or intensity is determined by the sheathing of the bobbin according to a graduated scale.

If the uterus is healthy we may be bold in increasing. In inflammatory conditions we must be cautious.—(*Brit. Med. Jour.*, Jan. 14, 1888.)

QUARTERLY RETROSPECT OF SURGERY.

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SURGERY OF GALL-STONES.

Cholecystotomy.—The need for the performance of cholecystotomy may arise from the impaction of a gall-stone in the cystic duct, or from closure of this duct in some other way when a distended gall-bladder has to be dealt with, with contents not necessarily bile, but a serous, sero-purulent, or purulent fluid. When the gall-bladder is much distended there is a danger of its rupturing into the peritoneum. In such cases operative relief is demanded. Usually the operative procedure is easy; the distended gall-bladder allows plenty of room for the extraction of stones, or its stretched walls can be readily sutured into the abdominal wound. In the hands of experienced operators the risk is small. Two cases reported by Mr. Knowsley Thornton (*Brit. Med. Journal*, Nov. 26th, 1887), where the gall-stones had passed into the common duct, and where the gall-bladder was small and shrunken, presented unusual difficulties. The first case was that of a lady aged 45, who had had several attacks of severe pain in the region of the liver and vomiting. When Mr. Thornton saw her with Dr. Geo. Johnson she was deeply jaundiced, anæmic and emaciated, and suffered from constant pain deep down in the region of the gall-bladder and in the back. No special projection of the gall-bladder, but on deep palpation, which caused severe pain, a hard angular body was distinctly felt. Diagnosis, stone impacted in the common duct. Operation was advised. An incision three inches long was made over the gall-bladder; the gall-bladder was so atrophied and surrounded by adherent omentum and small intestine that it was thought to be non-existent. A stone was felt in the common duct, and after scratching through the omentum the gall-bladder was found. It was carefully packed round with carbolized sponges and about

a drachm of muco-purulent fluid drawn off by aspiration. The puncture was enlarged and the finger introduced; the gall-bladder was so shrunken that it would only admit the index finger. The opening of the cystic duct could be felt, and through this a probe was passed which easily detected the stone in the common dect; the cystic duct was now carefully dilated till the finger could be passed through it and the exact size and situation of the stone felt. After a great deal of trouble the stone was broken up by probes, forceps, etc., and then extracted with long forceps. This part of the operation took an hour and a half, and the gall-bladder was so much torn and bruised by the forceps with which it was necessary to hold up the two sides of the opening into it, that it was found impossible to stitch it to the abdominal wound. So after sponging it out carefully with a solution of sublimate (1 to 1000), Mr. Thornton determined to carefully close the wound in the gall-bladder and leave it free in the peritoneum. This was performed with great difficulty, the torn edges of the adherent omentum being utilized to get a hold for the stitches and thoroughly close the wound. On sponging out the peritoneum it was found that some bloody serum had oozed down into the pelvis, so an opening in the abdominal parietes was made immediately above the pubes and a glass tube introduced. Another glass tube was put in the wound over the gall-bladder; the mouth of each tube was surrounded by dry carbolized gauze, and each had its rubber sheet filled with carbolized sponges, which were changed every twelve hours under the spray. A considerable amount of fluid, more or less bile-stained, was evacuated by a glass syringe with a piece of rubber tubing on the nozzle. The case eventually did well, and patient returned home cured in six weeks. Convalescence was somewhat retarded by an attack of asthma, which displaced the tubes. When last heard of she had gained some twenty pounds in weight. The second case was also a difficult one, a woman aged 56; frequent attacks of pain and vomiting, jaundice, and emaciation. The operation revealed matting of the omentum and intestines over the gall-bladder, which made it very difficult to reach. A stone was found in the cystic duct, and when this was removed two large ones were found in the common duct. The gall-bladder

was with difficulty stitched to the abdominal wound, and a small red rubber drain introduced deeply into the common duct. The tube was removed on sixth day. The patient suffered considerable pain in the region of the gall-bladder, and had some elevation of temperature, but no bile came away after the first month, and she was sent home in six weeks and is now in good health. Mr. Thornton remarks that when we have to deal with a distended gall-bladder and a stone impacted in the cystic duct the operation for its removal is easy. The bladder is carefully surrounded with carbolized sponges and aspirated. When empty it is incised and opened, then its stretched walls are easily held forward outside the abdominal incision, and the necessary manipulations carried on in a large cavity and without risk of any remains of the fluid contents fouling the peritoneum. But it is very different when the gall-bladder is shrunken and the edges of the incision cannot be brought out of the abdominal wound ; the risk of fouling the peritoneum is much greater. This difficulty is much increased if the individual be stout. Mr. Thornton has never removed a gall-bladder, but he thinks this operation less dangerous than either dragging a small bladder to the abdominal wound or suturing it and dropping it into the abdomen.

In the *British Medical Journal* of January 21st, 1888, Mr. John W. Taylor of Birmingham reports a case of *Cholecystotomy for Gall-stones.* The patient was a woman aged 42, who had for four or five years noticed a swelling on the right side of the abdomen. This grew suddenly larger about eight months previously. Had had eleven children, youngest 20 months old. No history of jaundice or acute colic. The tumor was situated in right hypochondriac and umbilical regions, freely movable, and careful palpation elicited a vibratory thrill. No true fluctuation. Case was diagnosed as one of distended gall bladder. The edge of the liver overlapped the tumor. Abdomen opened on outer side of right rectus, over the most prominent part of tumor ; beneath the peritoneum the liver was met with, but by pressing up the tumor a portion of distended bladder was seen. This was tapped and a pint of clear gelatinous fluid evacuated. The puncture was enlarged and the finger introduced into the gall bladder ; several loose stones were removed from the bladder

and one was wedged into the cystic duct, which could not be removed with the forceps at hand, so it was left. The wound in gall bladder was sewed to the abdominal wound, a large opening being left, and into this was placed a large-sized rubber tube. Through this tube the gall bladder was washed out morning and evening with warm water. On the fourth day the returned water was tinged with bile, showing the cystic duct was becoming free. Sixteen days after the operation a pair of Lister's forceps was introduced into the gall bladder ; the stone was found quite loose, it was broken and the fragments easily extracted. The debris was then syringed out. Patient left hospital eight days after with gall bladder and duct perfectly free.

In this case Mr. Taylor was induced to make use of the stream of water because he had seen its benefit so often in impacted wax in the ear. The use of delicate forceps in this case was of great value.

Dr. W. A. Mackay of Huelva, Spain, narrates an interesting case, in which he removed a stone from the cystic duct (*Lancet*, Dec. 24th, 1887) in a woman aged 40, who was married and had five children. The patient was deeply jaundiced, and was suffering from great abdominal distension ; a rounded swelling could be made out in the region of the gall bladder ; 400 ounces of fluid drawn off from abdomen revealed the tumor more distinctly. The ascites soon returned, so it was decided to operate. The usual incision was made, the ascitic fluid evacuated, and the gall bladder revealed size of a large pear and filled with sticky bile, opened and finger introduced, and a large stone removed from cystic duct, none in common ; fistulous opening remained, which discharged quantities of bile ; the discharge suddenly stopped, and she died of exhaustion some two weeks later. Post-mortem revealed cancer of the liver and pancreas, with occlusion of common duct. The sudden stoppage of bile was due to perforation of the common duct.

These cases are not easy to diagnose. It is often difficult to say whether a case of obstruction of the common duct is due to an impacted calculus or malignant disease. Of course when the cystic duct alone is distended, then there is no jaundice. Mr. Tait looks upon all these cases which are accompanied by jaun-

dice as due to malignant disease, but the cases reported above by Mr. Thornton prove the contrary.

Treatment of Gall-stones Obstructing the Intestines.—Dr. Anderson and Mr. Thomas Smith (*Lancet*, Dec. 3rd, 1887) report a case of obstruction of intestines due to the presence of a large gall-stone. Patient, a man aged 65, had suffered for six days from complete obstruction of the bowels, with distension of abdomen, pain and vomiting. He had had several previous attacks of partial obstruction. Medical treatment proving of no avail, laparotomy was decided on. An incision six inches long was made, and search carefully made for point of obstruction. A large gall-stone was found in the small intestine. The intestine was incised, the stone removed, and the wound sewed with Lembert's suture. Patient made an excellent recovery.

In connection with this case, Mr. Lawson Tait, in a letter to the *Lancet*, Dec. 10th, 1887, says that there is a much easier way to deal with gall-stones obstructing the intestines than opening the bowel. It consists in passing a fine needle through the wall of the intestines from below into the gall-stone. The stone is thus easily and immediately split into fragments and passes readily along the intestine, and the grave complication of opening the intestine is unnecessary.

At the meeting of the Clinical Society of London, held Jan. 13th, 1888, Mr. Clutton, of St. Thomas's Hospital, read a paper on a case of *Laparotomy for Obstruction from Gall-stone.* The case was that of a woman aged 70, in which the abdomen was opened on account of obstruction which was thought from the history to be due to impacted gall-stone. On opening the abdomen the stone was found in the lower end of the ileum. Instead of incising the bowel and extracting the stone Mr. Clutton pushed it on through the ileo-cæcal opening and sewed up the abdominal wound. The patient was relieved of her symptoms and made a perfect recovery. The symptoms of obstruction began twenty-four hours before operation with sudden acute pain in the abdomen, with fainting, and on examination, a tumor which has previously existed in the region of the gall-bladder had disappeared. The calculus was passed naturally five days after the operation, and measured 3⅝ inches in circumference.

At the same meeting Mr. Arthur Barker showed a large gall-stone removed from the ileum after death. It measured four inches in circumference. It had caused complete obstruction, and though it could be pushed upwards from its situation, it could not be forced downwards towards the valve. He considered that there would be no danger in performing laparotomy with a view to crushing the stone by means of a long needle, or even of opening the intestine, removing the stone, and suturing the bowel.

Mr. Heath spoke of the value of systematic manipulation in cases of colic due to renal calculus, and this might also be carried out in cases of intestinal obstruction due to gall-stone. The abdominal walls should be thoroughly relaxed by an anæsthetic, and the bowels should be also deprived of their contractility so as to enable the massage to be thoroughly performed and the stone so manipulated as to be moved onwards towards and through the ileo-cæcal opening. The results of operative interference were not satisfactory.

Mr. Thornton spoke of the success of Mr. Clutton's case, and contrasted it with the tedious and anxious waiting of cases treated by physicians, and thought it would be a good general rule to call for surgical aid when serious symptoms persisted. He spoke with approval of Mr. Tait's method of crushing the stone *in situ* with a pair of padded forceps, and he thought that this method could be applied with but little risk, provided the stone were first dislodged into a healthy portion of the intestine. It would also be possible, by means of a long needle, to fracture a large stone and thus allow the fragments to easily pass the ileo-cæcal valve. The mere pricking of the intestines in a healthy patient is of no consequence.

Obstruction of the intestine due to gall-stone is more common than is supposed. Every pathologist has knowledge of such cases which he not unfrequently meets with in the post-mortem room. Strange to say, the stone may cause symptoms of complete obstruction and death, and yet be a small one, which does not fill the intestine. The method of treatment by laparotomy is a great advance on the old method of masterly inactivity, and the improvements in the operation introduced by Mr. Clutton and Mr. Tait greatly lessen the danger of the operation by doing away

with the necessity for opening the intestines in operations undertaken for such cases.

HYDATIDS OF THE LIVER.

At a meeting of the London Clinical Society, held Dec. 9th, 1887, Dr. Coupland read the notes of a case of *Hydatid Cyst of the Left Lobe of the Liver*, which was cured by operation. The operation was performed by Mr. Pearce Gould. A hydatid cyst the size of an orange was found in the left lobe of the liver. The cyst was punctured, and clear hydatid fluid, containing numerous scolices, evacuated. The cyst wall was then firmly stitched to the abdominal wound, freely incised, and a drainage tube inserted. The case did well, and a few days after operation the collapsed hydatid was extracted; later, the fibrous adventitious cyst. After this the cavity rapidly granulated.

At the same meeting, Mr. Edmund Owen also read a paper on a case of *Hydatid Tumor of the upper surface of the Liver*, successfully tapped and drained across the pleural spaces. The patient was a married woman, aged 34. On first seeing her in May, 1886, there was great fulness in the region of the liver and dulness on percussion reaching from the fourth rib to the umbilicus, right lung greatly elevated and compressed. Hepatic tumor smooth, hard, gave no wave of impulse, and did not move with respiration or with any change of position of patient. Aspirated and removed thirty ounces of clear fluid, which contained no hooklets. In July the tumor was increasing and was again tapped, and sixty-eight ounces of bile-stained fluid came away; this contained abundance of hooklets. In the beginning of 1887 the patient was again admitted into hospital. The tumor had increased so much that there was danger of its bursting into the thorax. Several aspirations were performed with a fairly satisfactory result. Operation was decided on, and it was thought, as the tumor was completely under cover of the ribs, it could be best reached from above, through the diaphragm. An incision was made through the eighth intercostal space, the pleural cavity was opened, and the diaphragm felt bulging along inner surface of chest wall, but the lung itself, completely collapsed, could not be felt. The diaphragm was then incised, and the finger passing

through it felt a tense cyst, from which a considerable quantity of fluid was evacuated by aspiration. When the cyst was relaxed it was drawn through the diaphragm to the skin wound and fixed there with four harelip pins. On the fourth day the cyst was incised and a large flanged tube inserted. The cyst was washed out daily with iodine water. The patient did well, and when last seen the lung had descended to its normal position.

Allusion was made to a case of large liver abscess evacuated through the healthy pleura a few months later by Mr. Rickman Godlee, and where the costal pleura had been stitched to the phrenic pleura.—(*Brit. Med. Jour.*, Oct. 22, 1887.)

Mr. Treves read a case of *Extra-peritoneal Rupture of a Hydatid Cyst of the Liver* in a married woman aged 21. The rupture was caused by her husband hugging her vigorously, lifting her off her feet while doing so. She immediately felt agonizing abdominal pain and became very faint. Twenty-four hours later a swelling appeared under the ribs of the right side. It was dull on percussion, but did not fluctuate, and appeared to be under the skin. The tumor increased in size and became painful, and the patient rapidly emaciated, so the tumor was incised close to the margin of the ribs. Hydatid fluid escaped, and suppuration supervened. The patient died greatly emaciated three months after the injury. Necropsy showed that a hydatid cyst had formed in the posterior part of the right lobe and had been ruptured.

Dr. Angel Money related a case of *Empyema due to Hydatids* that had been under his care. Mr. Macready was called in and excised a portion of the ninth rib. A large cavity was found, in which abundance of hydatids existed; there was a hole in the diaphragm leading into the hydatid cyst in the right lobe of the liver.

In the discussion which followed the reading of these papers, opinions differed much as to the ultimate value of aspirating these cysts, but Dr. Broadbent's explanation of this divergence of opinion was that the prognosis depended largely on the nature of the fluid. When it is clear, and does not contain, as is often the case, numerous daughter cysts, then recurrence will not take place. When, however, the contents consist largely of minor

cysts and *debris*, suppuration or recurrence is probable. In any case aspiration ought always to be performed, for a certain number of cases recover after this operation alone. If operative measures be decided on, it is safe to divide the operation into two stages—one of incision of the abdominal wall and attaching the cyst to it, and the other of opening the sac a few days later. The greatest difficulty in these cases is the early diagnosis; but by a careful use of the aspirator much may be revealed.

SUCCESSFUL EXCISION OF A TUMOR OF THE SPINAL CORD.

In June last a short note appeared in the *London Lancet* stating that Mr. Victor Horsley had successfully removed a tumor from the spinal canal of a patient of Dr. Gowers. The patient had suffered intensely for some three years from pain which was present immediately below and internal to the inferior angle of the left scapula, and was accompanied by absolute loss of sensation and motion of the body and limbs below that level. The upper border of the anæsthesia was distinctly in the region of the fifth intercostal nerve on the left side; on the right it was less accurately defined. All the symptoms pointed to a tumor of the cord, and it was decided to operate. The operation was performed by a long incision in the mid-line of the back, having its centre about the fifth dorsal, down to the spines of the vertebrae; the muscles were cleared off the laminæ and retracted; the spines were removed by fine forceps and then the laminæ trephined; an incision was made through the membranes and the cord examined, but the tumor did not come into sight till the laminæ of the third vertebra had been removed. The tumor was found on the posterior root of the nerve about the level of the third dorsal, and was about the size of the little finger. It was a small oval myxoma, compressing and making a deep impression on the left side of the spinal cord below the third vertebra. It was easily shelled out. The wound in the membranes was not sutured. The wound healed rapidly. For three or four weeks the former acute pain did not lessen, and even at times seemed more agonizing (*Brit. Med. Jour.*, Jan. 28, 1888), but after that it gradually and intermittently decreased, and now after seven months is entirely gone. The sensation and motion

of the body are almost completely restored. The patient was shown to the members of the London Medical and Chirurgical Society at the meeting held Tuesday, January 24th, 1888. This is the first case of the kind that has been published. It has been stated that Dr. Wm. MacEwen of Glasgow has also performed a somewhat similar operation.

OPERATIVE TREATMENT OF EMPYEMA.

E. Rochelt (*Wiener Med. Presse*, 1887, Nos. 32 and 33) says that in operations for empyema the free entrance of air through the incision in the thorax is a hindrance to the expansion of the lung. He himself operates in the following manner: An incision is first made down to the pleura, and a rib is resected sub-periosteally. He then opens the pleural cavity with a trocar, through the lumen of which a tube is pushed, which must be filled with an antiseptic fluid and closed with a compression stop-cock. Then it is connected with the bottle of an aspirator and the pus evacuated. After all the pus has been taken away the bottle is removed and another substituted containing 1 to 5000 of sublimate solution and attached to the drainage-tube, and by elevating and depressing this, water is introduced or taken away from the thorax, and thus the pleural cavity is washed out. Then the drainage-tube is again closed by the compression stop-cock. The tube is then cut off so that it reaches into the cavity, and to the outer end a short piece of hard rubber tube supplied with a thick valve is attached and the stop-cock removed. The wound is now sewed up and antiseptic dressings applied. The pleura can be washed out any time when necessary, and if desired, a drainage-tube may be subsequently introduced. The trocar is 1 cm. in diameter, and the hard rubber tube with the valve is 1 cm. long. With each expiration it allows pus to flow through, but during inspiration it is closed and no air can enter the cavity. Rochelt recommends this method of treatment in all cases of recent pyo-thorax.—(*Centralblatt f. Chirurgie*, No. 1, 1888.)

A SIMPLE METHOD OF OBTAINING CERTAIN ASEPSIS.

Under this heading Prof. Kocher of Berne publishes an article in the *Correspondenz-Blatt für Schweizer Artze. Jahrg.* XVIII,

1888. The simple method consists in the discarding of catgut ligatures and using silk. The burthen of his song is "*Fort mit dem catgut*," as that of Bruns was "*Fort mit dem spray*." He also says "Away with all preparations of gauze." He gives a number of cases treated with catgut, in many of which the result was anything but good; wound infection was common, and healing by first intention was not the rule. When the catgut was replaced by silk, then the results were much different. All the wounds went on well and healed by first intention, and a table of 62 cases where silk was used is appended. In all the cases where primary union could be expected, the wounds healed completely, and without suppuration; a colleague who was visiting his hospital asked him if they never saw any suppuration.

Prof. Kocher advocates the use of glass drains with large holes because they can be so easily cleaned and rendered aseptic. It is his custom in those casss where a drain is needed to remove the tube completely at the end of twenty-four hours, and the stitches at the end of forty-eight hours. He says that the catgut cannot be easily sterilized, especially if kept in oil or alcohol, and that the reason the change to silk gave better results was that it could be sterilized with ease by boiling or otherwise. It is most important to have the ligatures aseptic, for they lie deeply in the wound, and infection conveyed to the deeper parts is much more serious than any other kind. Too much silk must not be used for ligatures, but the hemorrhage from all the smaller vessels should be arrested by torsion. He prepares his sponges by simply washing them well with soap and water, rinsing them out, and then putting them in a 5 per cent. solution of acid carbolic. Before operation he passes the sponges through a roller press, and then places them in a clean enamel vessel. He does not use sponges to disinfect, but is satisfied if they do not infect. The smooth polished instruments are cleansed with soap and water, and put in a solution of carbolic acid; the more complicated instruments are boiled for three hours in simple water. To disinfect the hands, he uses brush, soap and water, then washes them in alcohol, and then in a sublimate solution (1 per cent.) He prefers wood-wool or moss as dressing, and does not rely much on the prepared gauze. Although, in many cases,

he does not use drains, when he does use them he introduces them by a separate opening a short distance from the operation wound; the wound he always closes with a continuous suture, one row deep and one superficial.

In conclusion, he gives directions as to the preparation of the operating room and the vessels and solutions used, also the ligatures, sponges, instruments, etc.

TREATMENT OF TUBERCULAR AND SUPPURATIVE PERITONITIS BY INCISION.

In tubercular peritonitis, this method of treatment has been gradually developed from observations of the improvement in such cases following exploratory incision. The operation is looked upon by most surgeons as merely palliative. One of Wells' patients lived ten years after. In all the cases hitherto reported there has been no recurrence of the transudation. Free incision and drainage gives much better results than mere punctures. Up to the present seventeen cases have been reported, most of them made for exlporative purposes.—(*Wiener Med. Woch.*, 1887, Nos. 13-16.)

Within the last few years two cases have been operated on in the Montreal General Hospital with good results. In both the abdomen was opened for explorative purposes.

Dr. Kuemmell (Hamburg) has operated on two cases of his own and has notes of twenty-eight other cases. Of these thirty cases only two died from the operation; three died of general tuberculosis twelve, eight, and five months after. In two, local trouble did not recur, though the pulmonary affection went on, and at the time of reporting there were twenty-five relative cures. The external signs of peritoneal tuberculosis are usually those of an encapsulated ascites simulating a cyst. In but few cases was this part of a general tuberculosis, and in none was the latter hastened by the operation, but always improved. At the same meeting, Esmarch added three cases, Mikulicz two, and Wagner one,—all with one exception cures.—(Proceedings of sixteenth German Surgical Congress in *Centralbl. f. Chirurgie*, No. 25, 1887; quoted in *Annals of Surgery*, Dec., 1887.)

Operative Treatment of Suppurative Peritonitis.—Professor

Krönlein of Zurich (*Archiv f. Klin. Chir.*, 1886, Bd. 33, Hft. 2) relates three cases of putrid-purulent peritonitis with one success. The successful case was that of a laborer aged 18, who, after eating freely of cherries, was attacked with pain and vomiting, symptoms of peritonitis gradually developed, great tympanitis, finally feculent vomiting and severe prostration. Laparotomy on the nineteenth day; long incision and escape of fetid sanguino-serous fluid. Exudation found everywhere. No occlusion or perforation found. In spite of the apparent hopelessness of the case, the abdomen was carefully washed with a weak solution of bichloride and wound closed. No drainage. Patient did well, and three and a half months after was in perfect health.—(*Annals of Surgery*, June, 1887.)

At a meeting of the Clinical Society of London, held October 28th, 1887, Mr. Richard Barwell reported a case of suppurative peritonitis, where he opened the abdominal cavity, washed and sponged out the peritoneum, and patient made a good recovery. Patient was aged 42, and a hard drinker; admitted into Charing-Cross Hospital June 24th, 1887. Six days previously he fell and struck the left lower part of the abdomen, but seemed little hurt. Five days later felt severe pain and vomited. Soon his abdomen became distended and urine ceased to be secreted. Catheter brought away no urine; had previously passed bloody urine. Abdomen opened and a large quantity of gas escaped. No rupture of any viscus found, but a quantity of pus in lower part of peritoneum. Washed and sponged out with ten pints of distilled water. Abdomen sewn up without drain. Patient made a good recovery. Mr. Barwell said he objected to drains, as they could not drain the lower part of peritoneum through a wound in front of the abdomen. If distension occurred, the lower stitches should be removed.

Mr. Lawford Knaggs, at same meeting, related the case of a girl aged 16, with amenorrhœa of four months standing, who came under treatment for a left-sided abdominal swelling. Some fluid was aspirated, and the diagnosis of ovarian cyst made. The abdomen was opened, and the peritoneum was seen to be covered with myriads of pale-pink gelatinous-looking tubercles the size of hemp seeds. The ascitic fluid was removed and the peritoneal

cavity washed out with many pints of warm water. Improvement followed immediately. Fifteen months after there was no return of the ascites or abdominal disease. Her lungs were beginning to be affected and she had lost weight. The author spoke of another case of tubercular peritonitis operated on by him two and a half years ago ; the patient is a strong, healthy woman now. Homans of Boston reported a case well three years after operation. Spencer Wells one alive and well twenty-two years after operation. Mr. Tait claimed a uniform success as far as operation is concerned in all cases and a complete cure of the disease in 80 per cent. of all cases of tubercular peritonitis.

The reason why these cases of tubercular peritonitis are cured by operation is not very plain. Some say it is due to mechanical irritation and washing out, but whatever is the cause, there is not the least doubt that operation in these cases does great good, and is very often curative. Incision and drainage is also the proper treatment to adopt in cases of simple suppurative peritonitis ; the only difficulty is to know when to interfere, as many cases are at first obscure, and in some cases peritonitis can exist without any prominent symptoms. It is much safer in these case to use a glass drain. The fluid can be easily drawn away at intervals by means of a long-nozzled syringe. Some cases, however, appear to do well without drainage.

In the *Lancet* of Feb. 11th, 1888, referring to the above papers, Dr. Homans of Boston reports two more cases of *Laparotomy for Tubercular Peritonitis.* One was a girl of 21, operated on in June 1884, and when seen in November 1886, she weighed 130 lbs, and was in perfect health. There was still a sinus at the site of the old wound, which discharged a small quantity of pus daily. No drainage was used in this case, but afterwards the wound reopened and discharged the ascitic fluid which had accumulated. The second case was that of a girl aged 17, whose abdomen was opened for supposed ovarian tumor, but only ascitic fluid found and the whole abdominal cavity was studded with white nodules. These on examination by Prof. Fitz proved to be tubercles. A drainage-tube was introduced, but was removed on the second day. Eight months after the operation the patient was in good health and abdomen normal.

With regard to drainage in cases of tubercular peritonitis, Dr. Homans says he has never been able to establish an artificial drain in a case of ascites by the insertion of a drainage-tube; when nature means to cure the patient by drainage she reopens the wound.

At a meeting of the Philadelphia County Medical Society, Dr. E. T. Bruen reported a fatal case (*Medical News*, Nov. 26, 1887) of laparotomy for tubercular peritonitis. The patient was a man aged 34, with tuberculosis of the lungs and ascites. The fluid rapidly re-collected after tapping, so abdomen was opened and washed out. Patient died of acute peritonitis nine days after.

ABDOMINAL SECTION FOR PERFORATED TYPHOID ULCER.

Dr. T. G. Morton reports a case of the above in the *Medical News* of December 24th, 1887. The patient was a man aged 23, in good physical condition. The operation was performed twenty-four hours after the perforation. The abdomen was opened in the median line and a perforation discovered about three feet from the ileo-cæcal valve. It was about three-eighths of an inch in diameter, and occupied the lower end of a large ulcerated patch. The ulcer was closed by turning the whole area of the ulceration into the bowel by eight Lembert sutures. The ulcers in the bowel were seen outlined in the peritoneal surface by a deep dusky-red slightly swollen area. One looked as if it would soon perforate, so also was turned in by Lembert sutures. The abdomen then was thoroughly cleansed with water and the abdominal wound closed. The patient died collapsed six hours after the operation. Only two other such cases are on record, viz., the first performed by Kussmaul of Strassburg in October 1885. In this case the ulcer was excised; patient died eleven hours after. The second case was under the care of Mr. Bartleet of Birmingham. In this case the point of perforation was not found, so the cavity of the abdomen was washed out and a drain inserted; patient died two days after.

OPERATIVE TREATMENT OF ELEPHANTIASIS.

Dr. Helferich, after discussing the various treatments of elephantiasis (*Deutsche Med. Woch.*, 12th January, 1888) advo-

cates treatment by linear excision. In these cases the skin has lost its elasticity and compression is of little use. Dr. Helferich reports a case in which operative treatment was employed with good results. The patient was a girl 27 years old, who had since 10 ycars of age suffered at least once a year from erysipelas of the leg, which afterwards spread over the body, and after each attack the leg was larger than before. All methods of treatment proved useless. The skin of the face, arms and hands was also much thickened. On the 27th of November, 1885, he excised a long strip of skin reaching from knee to ankle and thence to the root of the toes of right leg, and on the 22nd of January, 1886, performed the same operation on left leg. The edges were brought together and united perfectly, afterwards the muscles were exercised by means of electricity and kneading, and patient walked about with comfort. The illustration accompanying the paper shows the marked improvement effected by the operation.

STATISTICS OF TRACHEOTOMY.

At a recent meeting of the Italian Surgical Society in Genoa Dr. Cabelli presented some statistics of tracheotomy which he had collected. In the first series of 132 cases there were 50 deaths and 82 recoveries. In the second series of 18 cases, 5 deaths and 13 recoveries. In the first series the recoveries rendered 62.2 per cent., and in the second 72.3 per cent.

INTUBATION OF THE LARYNX FOR CROUP AND DIPHTHERIA.

This method of treatment introduced by Dr. O'Dwyer of New York a short time ago has become very popular, so much so that in many places it has altogether superseded tracheotomy. The objections to intubation are not a few. First, the difficulty of introducing the tubes ; second, the difficulty of feeding in many cases ; and third, the danger of food passing through the tube into the trachea. Again, in some cases where the membrane is becoming loose, it may be pushed in front of the tube and so block up the passage. The operation is more suitable in those cases where the membrane is confined to the larynx itself. The operation is one that will be much more popular with the laity

than tracheotomy, because no cutting is required, and very few parents would object to the apparently much less formidable procedure of passing a tube through the obstructed passage. Considerable manipulative skill is required not only to introduce the tube, which is quite short, and is dropped into the rima glottidis and there hangs free, being prevented from passing through by a flange on the upper end. The instruments required are expensive, and consist of (1) mouth gag, (2) introducer, (3) five larynx tubes of various sizes, (4) extractor. The results so far have not been better than those obtained by tracheotomy since the introduction of antiseptics. Of course statistics in such operations are of little value, for everything depends on the character of the cases and the time of operation.

In the *New York Medical Record* for Oct. 29th, 1887, Dr. O'Dwyer records fifty cases of croup in private practice treated by intubation. He states he has never resorted to intubation until the symptoms of laryngeal obstruction were so urgent as to plainly indicate impending suffocation unless the child were relieved by operation. In his series of 50 cases he had 38 deaths; 18 due to extension of the membrane, 5 to exhaustion, 5 to nephritic complication, 4 to pneumonia, 3 to sepsis, 1 to œdema of the lungs, and 2 unknown, as they were not seen after operation. The 38 cases that died lived on an average two days and seven hours after intubation. In the 12 cases that recovered, the tube was retained on an average of five days and seven hours. After describing his method of practising intubation, he goes on to speak of the dangers of the operation, which are as follows:

(1) Danger of apnœa from prolonged efforts at intubation.

(2) The anxiety to succeed quickly will tempt the operator to use force, thereby running the risk of making a false passage.

(3) Injury to the larynx in removing the tube by passing the extractor down on the outside of the latter, opening it widely and removing it by force.

(4) The most serious of the unavoidable accidents liable to occur is pushing down the membrane before the tube in sufficient quantity to produce asphyxia. (This accident happened to the author only once in 132 cases.)

(5) Coughing out the tube before the stenosis has been permanently relieved.

(6) Blocking up the tube with masses of pseudo-membrane.

(7) The lumen of the tube sometimes becomes slowly, but seriously, encroached upon by adhesion of the tenacious secretions in those cases of croup which are called dry, particularly if there be little cough.

SURGICAL TREATMENT OF BRONCHOCELE.

Professor Obalinsky of Krakow, in speaking of the various methods of treating bronchocele, strongly advocates that introduced by Prof. Wölfler. This method consists in ligaturing the four thyroid arteries. He reports two cases. One of a girl aged 22, in whom a substernal bronchocele caused severe respiratory difficulties. An incision was carried along the inner border of the sterno-mastoid muscle, which enabled him to tie both arteries. In two weeks the tumor had decreased three-quarters of an inch. The second case was that of a woman suffering from a large struma of right lobe. Both right thyroid arteries were tied. The wound healed by first intention, and when discharged the tumor was reduced by one-half. In one case Socin's method of enucleation was followed. A peasant aged 21 ; many tumors were shelled out, with very little hemorrhage, and recovery took place in a fortnight. The respiration was then normal.—(*Wiener Med. Presse*, Nos. 30-31, 1887.)

SUBDIAPHRAGMATIC ABSCESS.

Plinatus reports a case of the above (*St. Petersburg Med. Woch.*, No. 4, 1887). Patient a man aged 32 years, who had always been healthy. Had high remitting fever, and pain referred to the right hypochondrium in the neighborhood of the hepatic flexure of the colon. The liver region was very prominent. Six weeks after the beginning of the illness the liver dulness reached as high as the fifth rib in the mammary line, the seventh in the axillary line, and the eleventh rib near the vertebral column. The liver dulness extended nearly an inch below the edge of the ribs, so that the whole vertical extent of liver dulness was about 6½ inches. The symptoms were obscure

as to whether there was an exudation in the pleura, but there were no distinct evidences of pleurisy. There was no pain on deep inspiration, the heart was in its normal position, the pulse was not frequent, and the line of dulness was not altered by position. At the end of twelve weeks the evening temperature was still high. Exploratory puncture was made in the fifth, sixth and seventh intercostal spaces in the axillary line. The first gave only serum, the second blood, and the third pus. The eighth rib was resected, but the pleural cavity was not opened, because the two layers of pleura had become fused; the diaphragm was divided and the abscess cavity reached,—it was about five inches deep. A large quantity of pus was evacuated, and the patient made a rapid and complete recovery.

(A somewhat similar case was reported by myself in the *Medical News*, Dec. 17th, 1887.)

ONE HUNDRED CASES OF OPERATION FOR STONE IN THE BLADDER WITHOUT A DEATH.

Surgeon-Major P. J. Freyer, M.D., reports the above in the *Brit. Med. Jour.* of Dec. 24th, 1887. Of these there were—61 litholapoxies in adult males, 16 ditto in male children, 22 lithotomies in male children, and 1 supra-pubic cystotomy in a male.

Reviews and Notices of Books.

Functional Nervous Diseases: their Causes and Treatment.—By GEORGE T. STEVENS, M.D., Ph.D., Member of the American Medical Association, of the American Ophthalmological Society, formerly Professor of Ophthalmology and Physiology in the Albany Medical College. New York: D. Appleton & Co.

This treatise, which received the highest honor awarded by the Royal Academy of Medicine of Belgium in 1883, is now presented to us in English. The work contains a great deal that is new and quite original, and will no doubt be welcomed by ophthalmic and other medical men. The author makes the long-recognized division of nervous affections into functional and organic. He takes up the predisposing causes of the former

group, treating of the neuropathic disposition, hereditary tendency, and reflex irritations, winding up his remarks on the last group of causes with the following proposition: "Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances, and more than other conditions constitute a neuropathic tendency."

This statement, as the author well remarks, so much at variance with the ordinary beliefs, must, of necessity, excite suspicion that the proposition has been based upon insufficient data, or that observations have been imperfectly made. However, any reasonable inquirer cannot fail, on reading the work, to see in Dr. Stevens a most careful observer, and that he has had ample material, extending over several years.

He then treats separately of cephalalgia, or headache; migraine, or sick-headache; neuralgia, spinal irritation and neurasthenia, chorea, epilepsy, mental disorders, etc., giving, in detail, the history, symptoms and treatment of cases under his care, which would be regarded by most medical men as hopeless, which made a good recovery after the existing ocular defects were corrected.

A supplement is added, devoted to refraction and accommodation, with a clear account of the author's own methods of examining for any existing defect in the ocular muscles, together with the treatment.

The whole subject is one of the greatest importance, and as treated by Dr. Stevens, deserves a good trial with careful study by all medical men, and especially by ophthalmologists, who have had new fields opened up for them. The book is nicely printed, and contains numerous portraits of cases previous to and following treatment, some of which show morvellous improvement.

Anatomy, Descriptive and Topographical, in 625 Illustrations.—By CARL HEITZMANN, M.D. English edition by LOUIS HEITZMANN, M.D. New York: J. H. Vail & Co. 1887.

This work is the English edition of the well known "*Heitz-*

mann's Anatomische Atlas," which has been popular in Vienna for the last sixteen years. It consists almost entirely of illustrations, with short explanatory text to each plate. The plates are clear, and show well the various structures, but would be improved by a little color. It is anatomically not so good a work as Quain or Gray, and the illustrations, though excellent, are no better, if as good, as those found in the last edition of Gray's Anatomy. As an atlas it is in a very convenient form, and would prove of use to the practitioner who has grown rusty in his anatomy, but as a student's text-book we cannot honestly recommend it. In fact there are so many excellent works on anatomy of this kind already in existence that another is not wanted. The modern anatomical text-books are altogether too bulky, and are getting beyond the grasp of the student. We think there is room for such a work as "*Gegenbauer's Anatomie des Menschen*," where the text is not too extensive, and the illustrations are merely for the purpose of making it plain. We have often wondered why this admirable work has not been translated into English.

As a work of reference, Heitzmann's Anatomy will prove useful and take the place of some of the larger atlases, but as a text-book it will not be popular. Some of the illustrations taken from preparations of the blood-vessels by Hyrtl are particularly good.

Nasal Polypus, with Neuralgia, Hay Fever and Asthma, in relation to Ethmoiditis. With illustrations.—By EDWARD WOAKES, M.D., Lond., Senior Aural Surgeon at the London Hospital, Surgeon to the London Throat Hospital. London: H. K. Lewis, 136 Gower St.

In this little volume the author advances his theory of the causation of nasal polypi under the heading of Necrosing Ethmoiditis. He starts with the fact that the muco-periosteum of the nasal cavities dips into the spongy structure of the bone and lines the cells, thus introducing a new element not found in other bony structures, namely, the mucous membrane element. It is to this special condition that the development of nasal polypi is due. Chronic inflammation of the mucous membrane causes

it to proliferate in one direction as myxomatous tissue, and in the other direction acts by giving rise to necrosis of the subjacent bone. This latter (necrosis) element causes the chronicity and obstinacy of the mucous membrane inflammation, which would otherwise, if uncomplicated, tend easily toward resolution and recovery. Proceeding on this basis the author educes many facts in support of his theory, describes the symptoms, direct and reflex, among others bringing up the much vexed question of hay fever, and finally winds up with the treatment as modified and altered to suit the condition. It is a good work, well worth a thoughtful perusal by all medical men.

Medical Electricity: A Practical Treatise on the Applications of Electricity to Medicine and Surgery.—By ROBERTS BARTHOLOW, M.D., LL.D., Professor of Materia Medica, General Therapeutics and Hygiene in the Jefferson Medical College of Philadelphia, &c. Third edition. Enlarged and improved. With 110 illustrations. Philadelphia: Lea Brothers & Co. 1887.

Dr. Bartholow has brought his third edition well up to the most recent advances in electro-therapeutics. On the whole, the work can be said to be fairly representative of our present knowledge of the subject as far, at least, as its use in medicine is concerned. From a physician we could not look for a description of the surgical and gynæcological use of electricity. We are pleased to see that the author devotes considerable space to an account of electro-physiology. Without a thorough grounding in this subject, the practitioner's attempt at electricial treatment must in many cases be unsatisfactory. The galvanic treatment of uterine tumors (Apostolian) is now becoming so common, and the doses employed are so enormous, that there is imminent danger that in the hands of the unskilled serious results may follow. It is only by an intelligent comprehension of the laws of electro-physiology and physics that this powerful means for good can be used with safety. We have much pleasure in recommending the work under consideration as a safe and reliable guide in all those subjects that it deals with. It is the most recent work on electricity in medicine.

Sprains: their Consequences and Treatment.—By C. W. MANSELL MOULLEN, M.A., M.D., Oxon, F.R.C.S., Eng., Assistant Surgeon and Senior Demonstrator of Anatomy at the London Hospital, &c. London: H. K. Lewis, 136 Gower Street, W.C. 1887.

The author has done a service to the profession in wresting this somewhat common-place subject from the hands of old women and quacks and giving it a position among surgical injuries which its importance demands. There is too little space devoted to the subject of sprains in the ordinary text-books on surgery, and the consequence is that much ignorance, leading often to disastrous consequences, is displayed in the management of this class of injuries. We are pleased to find that Mr. Moullen lays great stress on *rest* as a therapeutic agent in the treatment of sprains, while at the same time he warns surgeons against its too long continuance, lest it be followed by troublesome stiffness of the joint. Where there is much effusion, the author prefers cold to heat as an application. He is not in favor of the immediate application of plaster-of-paris. For the pain and stiffness which so often follow sprains, massage and electricity are strongly advocated. We can especially recommend the book to the general practitioner as a safe guide in the treatment of sprains.

Transactions of the American Ophthalmological Society. Twenty-third Annual Meeting, New London, Conn.

We are just in receipt of the above transactions. Nothing very new, with a few exceptions, appears to have been reported. Dr. Buller's paper on a peculiar form of Trachoma associated with Icthyosis we have already noticed in this JOURNAL. Dr. Lippincott of Pittsburg reported a couple of cases of circumscribed hyperæmia over the internal rectus tendon in cases of muscular insufficiency. Dr. Theobald of Baltimore communicated an interesting paper on the Pathogenesis of Pterygium, and Dr. Lucien Howe of Buffalo a valuable note on the increase of blindness in the United States. We notice, also, the obituary of Dr. Ezra Dyer of Newport, R.I., one of the founders and a valuable member of the Society. In the way of instruments, Dr. Risley of Philadelphia exhibited an ophthalmoscope with an attachment for using cylinder lenses.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 9th, 1887.

JAS. PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

PATHOLOGICAL SPECIMENS.

Development of Bone from Periosteum.—DR. BELL presented a section of the shaft of the femur illustrating the reproduction of bone from the periosteum. The specimen was secured from a patient whose thigh had been amputated ten days after receiving a compound comminuted fracture of the lower end of the femur and the head of the tibia, opening the knee-joint. Extensive sloughing had occurred, and at the time of the operation the patient was *sapræmic* from the absorption of putrid material from the sloughing tissues. Twenty-five days later it was found to be necessary to remove two and a half inches of the end of the bone owing to sloughing of the flaps. At the primary amputation the periosteum had been stripped from the bone to the extent of nearly an inch above the point at which it was removed. The bone removed at the secondary operation showed an undoubted development of bone in the periosteum thus detached.

DR. SHEPHERD said that this case was most interesting in connection with the views recently given by Dr. MacEwen of Glasgow in the October and November numbers of the *Annals of Surgery*. That authority held that periosteum does not initiate the reproduction of bone. In Dr. Bell's case the periosteum had certainly developed bone. He had no doubt of the correctness of Dr. MacEwen's views when he states that the periosteum is not the chief factor in the reproduction of bone, this function being performed by the soft tissues in the bone itself.

DR. MILLS thought that the Society was much indebted to Dr. Bell for having brought to its notice a specimen that might readily have been overlooked, and which illustrates one of the great laws of reproduction of lost tissue in the adult, in a structure but imperfectly understood as yet. There were other methods of ascertaining the laws of the organism than by laboratory experiments. Disease was one of nature's own experiments; and

medical practitioners might supplement the work of the physiological and pathological laboratories by the results of their clinical observations. The views most likely to be correct and lasting were that resultant of the comparison of facts derived from many different fields of observation. It was, moreover, to be remembered that however carefully conducted our laboratory experiments, there was always some disturbance of nature's processes, a principle often forgotten by over-confident investigators.

Purulent Meningitis.—Dr. Johnston reported a case which had been under the care of Dr. Molson, and in which he had performed an autopsy. Patient was a healthy woman, who, whilst in the sixth month of pregnancy, fell and struck her head. She developed soon after brain symptoms, deviation of the eyes, flexion of the neck to one side, and active delirium. She was admitted to the General Hospital, miscarried, and some days after died. At the autopsy, the ovarian veins were distended but patent, the renal veins free. There was severe parenchymatous nephritis with slight interstitial nephritis. Spleen and liver enlarged and soft. Uterus enlarged, cavity dilated, placental site free from inflammation. On the right side there was purulent meningitis of the inner surface of the pia mater extending to the base in the middle and anterior fossæ of the skull. There was thrombosis of the right lateral sinus and inferior petrosal sinus. No fracture of the base of the skull was found, but there was purulent otitis media of the right side with pus in the mastoid cells. The tympanic cavity was covered with granulations. In this case there was no history of ear trouble. Dr. Johnston had no doubt that the otitis was the cause of the meningitis, and that the fall a short time previously had very little to do with the fatal result of the case.

Rupture of the Heart.—Dr. H. L. Reddy exhibited a heart showing rupture of the left ventricle, and related the following history:—S., aged 68, day watchman by occupation, enjoyed good health for the thirty years preceding his death. Good family and personal history. Was a tall, well-built man, but not obese. On Monday last he left his house at 5 A.M. to go to work. When going down the steps of his house he was seized with a severe pain in his chest; he managed to walk about a

quarter of a mile, when he was forced to return and go to bed. In my absence Dr. Spendlove kindly saw him for me, and has given me the following note: "Patient complained of severe pain below the lower third of the sternum and extending two inches to the left of the sternum and three or four to the right; pain down both arms to the fingers, and a sensation of tingling in the finger-tips, general malaise, and a feeling as if a heavy weight was on the chest; slight dyspnœa; no cough; lungs normal; pulse slow and full, but intermitting once in four beats; heart-sounds slightly indistinct, no murmurs to be heard; vomited once after taking a cup of tea. Dr. S. gave him a small dose of nitro-glycerine, which apparently had the effect of removing the intermittence." I saw the patient about 12.30 P.M.; he complained of severe pain in the epigastrium, and was greatly troubled with eructation; pulse was then normal, and there was no symptom pointing to the heart as the cause of the trouble. I ordered him ¼ gr. of morphia, which relieved him greatly, and in four hours another ¼ gr., which relieved him entirely. The patient, after the second dose of morphia, seemed quite well, and enjoyed his broth diet. On the afternoon of the 8th, or four days after the first attack, whilst reading the newspaper, he threw back his head and died instantly.

At the autopsy Dr. Johnston found the following conditions: Pericardium moderately distended by blood; on opening, blood and clot to amount of 10 oz. found within the sac, the clot forming a complete mould about the heart. A small laceration, half an inch long, situated in anterior wall of left ventricle, one inch to left of septum, surrounded by an area of ecchymosis. On opening ventricles, left nearly empty. Endocardium appears normal, but at spot of rupture, on separating trabeculæ, an area of softening can be seen, and bristle readily passed through the laceration. On transverse incision above laceration, a thrombosed vessel seen surrounded by soft, yellow area of necrotic muscle. Subpericardial fat in excess, but heart muscle not fatty. On microscopic examination, no extreme atheroma of coronary or systemic arteries.

DR. MACDONNELL thought that the thrombosis of the vessels

in the wall of the ventricle caused the symptoms which preceded death, but that the rupture itself occurred later.

Mucous Polypi.—DR. JOHNSTON exhibited some microscopic specimens of mucous polypi from the nose. In eight or nine cases the condition was seen in its early stage to be strictly an adenoma of the nasal mucous glands. In later stages in the epithelial cells cause a disappearance more or less complete of the cell outlines, leaving only areolar tissue infiltrated with mucous fluid. This secondary change is probably the reason why these growths are commonly but wrongly called myxomata of the nose and confused with true myxomata, which are tumors of quite a different nature, originating in connective tissue.

DR. J. J. GARDNER exhibited a horizontal section of an absolutely normal human eye through the macula lutea. Specimen was hardened in Müller's fluid, cut under alcohol imbedded in celluloidin and stained, first with hæmatoxylon and after with eosin. Under the microscope the yellow spot shows well the thinning of all the layers of the retina, with entire absence of the rods, leaving the cones very distinctly seen.

Sub-diaphragmatic Abscess.—DR. SHEPHERD reported a case which had come under his observation some months ago:

John R., aged 60, carter, was admitted into the Montreal General Hospital, under Dr. Wilkins, on the 14th of April, 1887, complaining of a painful swelling in his right side. More than a year ago he had, after exposure, become thoroughly chilled, and had suffered from very acute pain in the region of the stomach; he was able to be about again in a day or two, but never felt quite well. The severe pain returned in a couple of weeks in the right hypochondriac region, and was increased by inspiration and movement of the body. At this time he became jaundiced. He remained in bed for a week; after this the pain left him, and he got up and went about, but was unable to do any work. In the middle of April, 1886, he had another severe attack of pain in the right hypochondrium, and this time he remained in bed till July, 1886. He now first noticed a swelling in his right side, immediately below the margin of the costal cartilages. Since July, 1886, although he was never confined to bed, he always suffered from pain, and the swelling in his right

side gradually increased. At the beginning of April, 1887, the swelling became more painful and rapidly increased in size; he entered the General Hospital. During the whole period of his illness he never had any rigors nor any marked shortness of breath.

When examined on entrance into hospital, April 14th, 1887, the following note was made by Dr. Wilkins: "Well developed man, not emaciated or anæmic; skin cool and moist; no hectic flush; no jaundice; temperature 98.5°, respirations and pulse normal; appetite good, sleeps well, and always lies on his right side. In the right hypochondriac region is a large, smooth, globular, fluctuating swelling extending below the costal margin to within half an inch of the umbilicus, and laterally to near the median line; lower border of the swelling is convex and yields to pressure; right side of chest from third rib downwards is expanded, the intercostal spaces widened and bulging, and a dull note on percussion in front and in the axillary from the third rib downwards and from the middle of scapula behind. Breathing sounds are completely absent over this area. In upper part of right lung breathing is feeble and somewhat tubular in character. Left lung and heart normal. Urine normal. It is impossible to make out the liver dulness or to feel the lower border of that organ."

On the 18th of April Dr. Wilkins aspirated the fluctuating swelling in its most convex portion below the ribs, and drew off 25 ounces of creamy, sweet-swelling pus. This was examined microscopically for hooklets of echinococci, but without result. Nothing but blood, pus and neurotic tissue was found. After the aspiration, patient felt much more comfortable; could sleep on his right side, and had no pain or nausea. He was transferred to the surgical wards, and on April 23rd Dr. Shepherd, under ether, made a vertical incision some four inches long in a line with the nipple and commencing immediately below the costal margin on the right side; the parts were carefully incised and it was found that the wall of the abscess cavity was adherent to the abdominal parietes, and consisted of a thick mass of inflammatory tissue. When the abscess cavity was opened there was a gush of fluid, and afterwards each inspiration caused the

pus to flow more freely; to facilitate the exit of pus a large rubber tube was introduced, which acted as a siphon; in this way some 80 ounces of pus were drawn off. The patient now showed signs of collapse, breathing shallow, pulse extremely feeble, so the evacuation of pus was discontinued. On exploring the abscess cavity with the finger the diaphragm could be felt above, reaching as high as the third rib, but owing to the size of the cavity its lateral and posterior limits could not be made out; its lower limit consisted of a dense mass of inflammatory tissue, through which the liver could not be felt; a probe introduced could be felt posteriorly between the fourth and fifth ribs. The cavity apparently now contained as much pus as had been already evacuated, but owing to the condition of the patient it was decided it would be more prudent to allow it to drain away gradually through a rubber tube; so the wound was sutured, a large drainage-tube left in, and a dressing of sublimated jute and washed gauze applied. Patient, on getting to bed, under the influence of heat and stimulants, soon rallied. During the next three days there was a large discharge of pus, and the dressings had to be changed daily. Temperature never rose above 99°, and from the day of the operation patient improved, the abscess cavity rapidly diminishing in size. By the 1st of June the discharge of pus had almost ceased, the abdominal organs had resumed their normal position, and liver dulness was normal, but breath sounds over right lung still feeble. Patient rapidly gained flesh, and when discharged from hospital in August there was a small sinus at the site of the wound which discharged a little serum. For the last three months patient has been at work, and looks, and says he feels, well. The sinus has not yet quite closed. The breath sounds could be heard over the whole right lung, but at the lower part, both in front and behind, still rather feeble.

Dr. Shepherd said that there was no doubt in his mind about this being a case of abscess which originated between the diaphragm and the liver. The remarkable point about the case was the absence of history of fever or rigors, the slow and comparatively painless growth, and absence of jaundice. These conditions are those which generally indicate echinococcus disease; so at

first, until a microscopical examination gave a negative result, the case was diagnosed. The symptoms were not acute enough for liver abscess, but when no hooklets or other evidences of echinococcus were found it was thought probable that it was such a case. He had intended making a counter opening posteriorly to facilitate drainage, but the collapsed condition of the patient after the evacuation of so large an amount of pus warned him to complete the operation as soon as possible and to apply restoratives. The result was quite as satisfactory as it would have been had an opening been made posteriorly as intended, a dependent opening when abscesses above the diaphragm being much more important than when they are below it on account of pressure of the abdominal walls on the contents of the abdomen always tending to obliterate any cavity that may exist. In this case it was remarkable how soon such an enormous cavity disappeared.

Dr. Roddick thought that it was not improbable that the case originally had been one of empyema; that the pus had ulcerated through the diaphragm, and got between that structure and the liver.

Dr. Geo. Ross said that the explanation offered by the last speaker was an ingenious one, but not practicable. The anatomical structure of the parts did not give any likelihood to the supposition. The case had probably been originally one of subdiaphragmatic peritonitis which had become localized. We may have a pleurisy following a subdiaphragmatic inflammation without perforation of the diaphragm, but that such a small opening as would naturally result from an ulcerating empyema could completely drain the pleural cavity and collect below the diaphragm, was not probable. Any empyema would surely come forward more readily than downward.

Dr. MacDonnell related a case of peri-cæcal abscess, in which pus found its way up behind the peritoneum, between the liver and diaphragm, and burrowing through the latter, formed an abscess in the lung and was coughed up by the patient.

Dr. Wilkins said that when he first saw the case the probability of its being an empyema occurred to him, but he, for various reasons, discarded this idea. From the early history,

jaundice, etc., he was inclined to regard the case as one of abscess of the liver; but against this was the total absence of a history of fevers, rigors, or sweating. He had now no doubt that the case was one of abscess between the liver and diaphragm. One feature about the case was the apparently slight amount of pain which pressure on the tumor caused.

Dr. Shepherd, in reply to Dr. Roddick, said that not one symptom in the early history pointed to an affection of the pleura; the pain was always below the costal cartilages of the right side, and there never was any cough or difficulty of breathing. At the time of the operation there was no pus in the pleural cavity. Fluid always finds its way in the direction where there is the least resistance, and this is certainly not in the direction of the diaphragm. In his experience the pus in empyema always pointed in the neighborhood of the nipple, and when it pointed elsewhere it did so by burrowing beneath the tissues external to the lung wall of the thorax, after perforating an intercostal space.

Four Cases of Lateral Lithotomy.—Dr. Fenwick said: I desire, Mr. President, to lay before the Society four specimens of vesical calculi recently removed by lateral operation.

The first is a mulberry calculus removed in August of last year from a young fisherman from Newfoundland, aged 22 years, who had noticed the usual symptoms of stone for the past five or six years. For the past year he had been quite unfit for his usual avocations, and at length decided on seeking relief by coming to Montreal. The voyage from Newfoundland was unusually rough, and he stated that the pitching of the vessel was very distressing. The usual operation of lateral lithotomy was performed. The patient made a good recovery; the urine ceased to flow from the wound on the 14th day, and he returned home ten days later.

The second specimen was removed by lateral lithotomy from a Scotch farmer, aged 57, who had suffered from difficulty of micturition for the past year and a half. He had also noticed occasional spasm, persistent pain at the point of the penis, and frequency in passing urine; he could not retain his water longer than two hours at any time, and more frequently it would be passed every hour. He presented an anxious, care-worn appear-

ance, was a strong, robust man, and otherwise well-nourished and healthy-looking. His physician had suspected stricture, and had failed in an attempt to pass a No. 4 catheter into the bladder. This, he stated, had been followed by hemorrhage, the only time, indeed, in which he had lost blood. An ordinary sound was passed into the bladder and a stone at once struck. The prostate gland was not enlarged, and the urine was found to be normal and otherwise healthy. I may state that this man's brother, a year or two before, had been successfully operated on for stone by Dr. Roddick. Lateral lithotomy was performed on the 27th September last, and the two calculi shown were removed; their united weight is 243 grs. The patient progressed favorably. On the tenth day after the operation he complained of some bladder irritation, so that I determined to pass and leave in a soft rubber catheter. This was done with a view of hastening the closure of the wound in the perineum. The pressure of the catheter, however, could not be endured; it was removed on the second day after its introduction. The urine ceased coming by the wound on the fourteenth day. The wound made rapid progress towards improvement and closed on the seventeenth day after the operation, and he was allowed to return home on the twenty-sixth day from the date of operation.

The third specimen submitted was removed from an old gentleman, aged 69 years, by lateral lithotomy. It is almost pure lithic acid, and one of the largest specimens of the kind in my collection; its weight was 625 grs. The operation, which was performed on the 1st November last, was attended with some difficulty owing to the high position of the bladder, due apparently to an enlarged prostate gland. The bladder was, however, readily incised, but on attempting to enter with the finger I found that the point of my finger did not reach further than the commencement of the prostate. Fearing, if I used any force, that the bladder would be pushed beyond my reach, I requested my friend Dr. Roddick, who has a much longer index finger than I have, to complete the operation; this he did with some difficulty; no further cutting was necessary, as the opening in the prostate was large enough for the purpose. The bladder was then carefully washed out and a large-sized gum-elastic tube introduced through

the wound and tied in. This was removed by the patient himself the morning after the operation, and to this I attributed the subsequent disturbance which delayed the recovery. Erysipelas attacked the wound on the fifth day, the edges of the incision presented a sloughy aspect, and the erysipelatous blush extended over the buttocks and up the back as high as the shoulders; septic sore throat followed. The entire fauces and hard and soft palate were covered with diphtheritic membrane. The muriate tincture of iron with quinine was prescribed in full doses, and he was supported with beef-juice, milk and champagne. At the same time the throat was sponged over with a solution of salicylic acid ℥i to ℥i glycerine every two hours. This treatment was persevered in, and about the fifteenth day after the operation the symptoms began to improve. The urine was highly ammoniacal, and as he was constantly wet, which added to his distress, a soft rubber catheter was introduced into the bladder so as to drain through the natural passage. This was kept up for several days. He was, however, somewhat difficult to manage, as he would himself remove the instrument, but always permitted it to be reintroduced. This was followed by marked improvement. The erysipelas subsided about the twenty-second day and the wound became more healthy in appearance. The catheter was retained at intervals up to the 30th ult. The patient is now making a slow recovery; the urine ceased coming through the wound on the 5th of December, and the wound itself is all but closed.*

The fourth specimen is a mulberry calculus, removed from the bladder by the lateral operation on the 22nd of November, 1887. The patient is a healthy-looking lad of 18 years. I was informed by his mother that he had suffered from bladder irritation off and on since the age of five years. During the past twelve months he had observed that he experienced pain in riding over a rough road; there was continued irritation, frequency of micturition, and pain at the point of the penis. He had never passed blood. No examination for stone had ever been made until recently, when the gentleman whom he consulted had passed a sound and

* He progressed slowly, but steadily, and early in January returned to his home in the country. Since then I have heard of his steady amendment.

readily found the stone. He advised him to come to Montreal, and he was admitted into the Montreal General Hospital on the 16th November, 1887. The day following an examination was made while the patient was under ether. A short-beaked sound was passed and a stone struck; it appeared hard, had a clear ring, was evidently of good size, and was rough on the surface. Lithotomy was advised. As the examination had been attended with slight bleeding and increased bladder irritation, it was decided to defer the operation for a day or two. On Tuesday, 22nd of November, the operation of lateral lithotomy was performed. Some difficulty was experienced in delivering the stone. The patient progressed favorably. A sponge wrung out of a very weak solution of sulphuric acid was placed in his bed against the wound. On the seventh day from the date of operation he first experienced a desire to pass urine, but not over half an ounce was passed by the natural passage. This gradually increased in amount each day. On the thirteenth day the urine was passed in full stream and very little by the wound, and on the sixteenth day the urine ceased to come through the wound, and two days subsequently the wound closed. The patient was allowed up, and he returned home on the 24th December, 1887. The weight of the stone was 411 grs.

Cirrhosis of the Liver.—Dr. R. L. MacDonnell related a case of recovery in cirrhosis of the liver, where ascites had been present to a very great extent. The patient, a woman aged 35, married, but childless, was admitted to the Montreal General Hospital in August, 1885, with a large quantity of fluid in the abdomen. She had suffered during the past year from dyspeptic symptoms, with morning vomiting. There was a history of spirit drinking. Prior to admission, was tapped to the extent of 200 ounces. There was tenderness over the hepatic region. The liver was small, measuring three inches in the right mammary line. She remained in hospital for ten months, being tapped at first every two or three days, but subsequently at longer intervals, the amount withdrawn being at first about 180 to 200 ounces, but at the time of leaving hospital but 16 to 20 ounces could be obtained. She was tapped sixty times during that year, and taking 150 ounces as an average, altogether

8,500 to 9,000 ounces were removed. The woman has gained health and strength, and is now apparently well and attending to her household duties. The liver is of the same size, the belly empty, and dyspeptic symptoms have disappeared. The total amount of fluid removed in a year is large, considering the patient's weight (125 lbs.) and size. Much larger quantities have been taken, but the case is instructive, as illustrating the benefit to be derived from paracentesis in cirrhosis.

Dermoid Ovarian Cyst in a Pregnant Woman.—Dr. Wm. Gardner alluded to a case he related to the Society with exhibition of the specimen last winter. The case in question was one of ovariotomy for dermoid cyst, with twisted pedicle and most alarming symptoms of peritonitis. At the operation there was found universal adhesion of the cyst; it was necessary to remove the second ovary for commencing disease. Washing out of the cavity was freely practised, and a drainage tube was used for five days. It lay against the posterior wall of the uterus for five days. The uterus was somewhat large and vascular, but pregnancy was not seriously thought of, yet in a few weeks the woman was found to be undoubtedly pregnant. He now had to report that a few weeks ago she had been confined at full term by her ordinary medical attendant, Dr. Molson, of a large, healthy, living child, and had made an easy and rapid recovery. This was the second ovariotomy Dr. Gardner had done during pregnancy. The first case was also confined at full term, both mother and child being alive and well. Considering the dangers of pregnancy with ovarian tumor when uninterfered with, such cases surely furnish a strong argument in favor of prompt performance of ovariotomy even when at the time of diagnosis there are no alarming symptoms. Both of Dr. Gardner's cases were, however, done for urgent symptoms.

The Dangers and Accidents of Local Treatment in Puerperal Cases.—Dr. J. C. Cameron then read a paper on this subject, which appeared in the Journal for December, 1887.

Dr. Blackader said he would like to ask the reader of the paper under what circumstances he now advised curetting, and whether he would perform this operation whenever there were any septic symptoms present. He thought that injections should

not be given too hot, for he had seen serious symptoms follow the employment of very hot injections; peritonitis even had resulted from the injection of plain hot water.

Dr. Wm. Gardner related an instance illustrating the dangers of vaginal injections with improper syringes. The case was that of a lady whom he attended during the past summer for a violent attack of pelvic peritonitis. She had been for some months suffering from pelvic symptoms, and on one occasion proceeded to take a vaginal injection with the ordinary syringe; but having mislaid the vaginal pipe, she used the rectal pipe with a single aperture at the end. The vagina was lax and the perineum and cervix lacerated. She had no sooner begun than she was seized with violent pelvic and abdominal pain, with symptoms of collapse, speedily followed by vomiting, fever, and all the other symptoms. She was in bed for four or five weeks, and was for a time in great danger. There can scarcely be a doubt that the water was forced directly into the uterine cavity through the open cervix.

Dr. Roddick said he was cognizant of not a few cases where serious results had followed the use of bichloride of mercury injections. He thought Condy's Fluid a safer antiseptic. But best of all is hydronaphthal; it has germicidal qualities nearly equal to bichloride of mercury, but no odor or irritating qualities, and there is no danger of poisoning.

Dr. Mills thought that the untoward results sometimes following vaginal and uterine injections were to be explained through the impressions directly made on the nervous system as well as by absorption of the fluid used. This being the case, the good effects of the stimulant, given as Dr. Cameron recommended, prior to the injection were probably owing to its acting by lessening the susceptibility of the nerve centres to any sort of afferent impressions. He doubted whether the effect on the circulation was not rather favorable than otherwise to absorption. Dr. M. wished to know whether there was any exact evidence bearing out the belief that fluids were more readily absorbed from the vagina than the uterus after parturition. It is scarcely what would b

Dr [illegible] eply, stated that the value of curetting, in

suitable cases, is unquestionable, viz., where portions of the placenta are retained; the brushing out of the uterus would not, in all cases, replace curetting. The danger of absorption is greater through the vagina than the uterus, as the former is always more or less abraded, and also because the injected fluid, owing to the greater tendency of the vagina to sacculate, remains longer in contact with the absorbing surface. He had written this paper as a protest against the indiscriminate and careless use of injections in the puerperal state.

Selections.

The Internal Administration of Bichloride of Mercury AS AN ADJUNCT TO THE LOCAL TREATMENT OF CIRCUMUTERINE INFLAMMATIONS.—Dr. H. N. Vineberg (*New York Medical Journal*, Jan. 28, 1888) draws the attention of the profession to the value of bichloride of mercury internally to promote and hasten the absorption of inflammatory products effused into the structures surrounding the uterus. He was induced to try the remedy from the striking results that he had accidentally observed in a case which had been under treatment at the out-door department of the New York Hospital. The patient had an extensive exudation of plastic inflammatory material surrounding the uterus which failed to undergo any absorption under the ordinary local treatment and the administration of various reputed tonics. She was growing cachectic, and rapidly passing into a state of invalidism. She was then sent to the surgical department, where a diagnosis of syphilis was made and the patient put upon a mixed treatment of iodide of potassium and bichloride of mercury. Improvement began to manifest itself shortly afterwards, and was very marked at the end of three months. The conclusion was forced upon the author that the results were due to the resolvent powers of the drugs and not to their antisyphilitic virtues. In view of this opinion, he decided to give one of the drugs—the bichloride—in every case of pelvic trouble due to circumuterine inflammation that came under his care. Accordingly, during the previous summer he administered the remedy to thirty odd dispensary and private

patients. The routine local treatment, consisting of the application of iodine to the vaginal vault, followed by glycerine tampons, was also carried out. The results obtained by this combined treatment were much more gratifying than when local treatment alone was relied upon. The author states that under the combined treatment cures were obtained in many of the cases, and improvement in all where the symptoms could be definitely traced to inflammation about the uterus. He found the bichloride useful also in some cases as a means of differential diagnosis of the various conditions that give rise to pelvic pain. If the pain continued after a three weeks' administration of the remedy, it was looked upon as being due to some other condition than pelvic inflammation. That cases are occasionally met with in which the most skilled gynæcologist is at a loss to determine whether the pelvic pain is due to a neurotic condition of the patient, to a neuralgia, or to a circumscribed, deeply-seated inflammation of the pelvic structures, every one who has had any experience in diseases of women will readily admit. It was in cases of this kind that the remedy proved valuable as an aid in forming an opinion of the pathological condition. The paper embodies the report of six cases, which seem to bear out the author's assertions. The remedy was given in doses of gr. 1-24 to gr. 1-16, with tincture of gentian, three times daily after meals. No untoward constitutional manifestations were observed even when the administration was continuously kept up for several weeks. On the contrary, the general condition of the patients seemed to improve, as did also the appetite and the digestive functions. The author sums up as follows: (1) The use of bichloride of mercury internally forms a valuable aid to the local treatment of circumuterine inflammations. (2) In the doses necessary for its resolvent effect the drug may be given for several weeks without any untoward constitutional manifestations. (3) In some cases where the inflammatory products are deeply situated within the pelvis, the internal use of the drug seems to be more efficacious than the most approved local treatment. (4) A short course of the drug often serves as an important means for the differential diagnosis of the various obscure conditions which give rise to pelvic pain.

CANADA

Medical and Surgical Journal.

MONTREAL, MARCH, 1888.

THE INFLUENCE OF FEVER ON THE CIRCULATION.

Landouzy and Siredey have recently published (*Rev. de Med.*) the results of an extensive study into the changes that occur in the heart and circulation during and after the occurrence of the infectious fevers. Their observations have been confined to the influence in this respect of typhoid fever, scarlet fever, and smallpox. They look upon this influence as being much more serious than is commonly believed. They especially refer to the injurious effects of typhoid fever, and consider that, next to acute rheumatism, it exercises the most deleterious influence on the circulation. It is not only a present, but a remote injurious action. In the cases of acute heart failure during the course of typhoid fever which they observed, they invariably found, after death, a myocarditis, with atrophy and fatty changes in the muscular fibres. The prominent symptoms during life indicating those changes, they found to be an irregularity in the action of the heart, with a rapid failure of its strength. They consider the examination of the pulse in typhoid fever to be of even more importance than that of the temperature. They look upon it with the same importance as does Jürgensen in a pneumonia. In addition to a myocarditis, they have also frequently found endarteritis of the aorta and smaller arteries. Some of the latter had their lumen completely blocked up. This endarteritis may extend and involve the aortic and even the mitral valves, and in this way lay the foundation of a change which in after years may lead to valvular incompetence. We therefore can have, according to these observers, all the cardiac

disasters from the ordinary infectious fevers that flow from the effects of acute rheumatism.

NOTES AND COMMENTS.

A few nights ago Dr. Hartshorne read an interesting paper at the College of Physicians, Philadelphia, in which he endeavored to show that the death rate from pneumonia had increased greatly within the past twenty-five years—doubled, in fact—and this he was inclined to attribute to the change in the methods of treatment.

It does appear from the last United States census reports that the death-rate from this disease throughout the country has increased, but taking hospital statistics, which are probably more reliable, and represent a greater uniformity in treatment, the increase is by no means great. Thus in the Montreal General Hospital, with an average mortality of 20.3 per cent in 1012 cases treated from 1853 to 1887, the percentages in the decades are as follows: 1853-63, 16.2 per cent.; 1863-73, 16.1 per cent.; 1873-83, 23.7 per cent.; and for the years 1883-87, 20.3 per cent. The increase of 7 per cent. in the death-rate in 1873-83 corresponded with the admission in that decade of more patients than in the previous twenty years, a fact to be borne in mind, as the greater the prevalence of pneumonia the larger the number of debilitated persons who will be attacked and who will succumb.

Neither the New Orleans Charité, with a total of 3969 cases since 1830, and a mortality of 38 per cent., nor the Pennsylvania Hospital since 1845, with 704 cases and a death rate of 29 per cent., show any such increase as could reasonably be attributed to a change in the methods of treatment. The figures of the Edinburgh Infirmary are most convincing to the contrary, for the death rate sank from 36 per cent. to 12 per cent. after the introduction of what we call the more rational methods.

For bleeding, mercury and antimony, with which our grandfathers attacked pneumonia, we have substituted aconite, ammonia, and alcohol. Then, as now, a considerable proportion of the cases were over-treated—the 50 or 60 per cent. which Skoda,

Deitl and Bennett have taught us recover without special medication. I daresay we loose cases which would have been saved by free venesection. I am always on the watch for such, but so far have not been very fortunate, for of seven cases in which from 12 to 24 ozs. of blood were abstracted five died, three in succession last winter. It is a mistake to suppose that an expectant plan of treatment is followed to any extent by the profession at the present day. If the mortality has increased, it surely is not for lack of vigorous measures. Aconite, veratrum viride and antimony are in general use, and are prescribed with great freedom. The census returns show a greater mortality of pneumonia in the country districts, a fact which some might connect with the persistence in these parts of more heroic measures of treatment.

A deepening and fatal coma after æther anæsthesia may be due to apoplexy or to uræmia. An illustration of the former occurred in Montreal eight or ten years ago in the practice of Dr. Fuller, in an operation for cataract on an old man. I do not think the case was ever reported in full, but if I remember aright, cerebral hemorrhage was present post-mortem. On the 26th January a man aged 53 was admitted to my wards in the Philadelphia Hospital, to whom, on the 25th, æther had been given by Dr. Eareckson to stitch a wound on the face due to a fall. The patient, a sober man, had not been well for some time, and was very tottery on the 25th when he fell and cut his nose. According to the friends, he took the æther very well, and the operation did not last long, but he never regained consciousness. When I saw him on the morning of the 27th the temperature was 97.5°, the pulse 104 ; the limbs relaxed, but moved occasionally ; pupils medium size, immobile ; respirations noisy. The urine obtained from the bladder was highly albuminous and contained many finely granular and hyaline casts. In the evening the temperature was 98°, and the condition was unchanged. He was thoroughly purged and sweated without any benefit. He died on the morning of the 28th, never having roused or shown any sign of consciousness. An autopsy was not allowed, nor did the coroner order one !

There can be no doubt that in this case the administration of æther precipitated an attack of uræmia, and I mention the case to remind physicians of the dangers of giving anæsthetics in chronic Bright's disease. Dr. W. F. Norris, in the Transactions of the American Ophthalmological Society, 1881, called attention to the subject and gave references to several cases. I do not think that the simple presence of albumen and casts should absolutely preclude the administration of æther, but a knowledge of their existence should increase, if possible, the precautions taken, particularly when associated with the *arterial* and *cardiac* changes so common in chronic Bright's disease.

We speak of death as the King of Terrors, yet how rarely does the act of dying appear to be painful, how rarely do we witness *agony* in the last hours. Strict, indeed, is the fell sergeant in his arrest, but few feel the iron grip; the hard process of nature's law is for most of us mercifully effected, and death, like birth, is "but a sleep and a forgetting."

I have been much impressed with this recently in the case of a friend who had entered far into the Valley, and who now, in his convalescence, bitterly contrasts the pains and tortures of suppurating hypodermic punctures with the dream-like, delicious sensations of the profound collapse in which he nearly passed away. Shelly's description,

> "Mild is the slow necessity of death:
> The tranquil spirit fails beneath its grasp;
> Without a groan, almost without a fear,
> Resigned in peace to the necessity;
> Calm as a voyager to some distant land,
> And full of wonder, full of hope as he,"

is truer in the majority of cases than Newman's marvellous picture in the *Dream of Gerontius* of the act of dissolution, which, more in accord with popular belief, is described as a "fierce and restless fright," "a strange innermost abandonment" and sense of ruin, worse than pain.

Dr. William Munk, the accomplished historian of the Royal College of Physicians of London, has recently written a little work on *Euthanasia: or medical treatment in aid of an easy*

death. With much of general and scientific interest, it contains also many valuable suggestions to practitioners and sound advice as to the medical management of the dying. The first chapter, "On Some of the Phenomena of Dying," is full of interesting testimony on the painlessness of death. He quotes William Hunter's words, almost his last ones, "If I had strength enough to hold a pen, I would write how easy and pleasant a thing it is to die." Dr. Munk urges the free, but judicious, administration of opium, not so much for the allaying of pain as for the relief of the feeling of exhaustion and sinking—of indescribable distress and anxiety—referred to the heart and stomach. Hufeland declared that opium "is not only capable of taking away the pangs of death, but it imparts even courage and energy for dying."

Some of my most pleasant recollections as a student are associated with Richard Zimmerman, whose death took place last week in Toronto. At Toronto School of Medicine, which we entered together, his zeal was always a stimulus, but his capabilities, as tested at the examinations, were far beyond my reach. In London, though at different hospitals, we saw much of each other. His brilliant career at St. Thomas', where he secured the prize of a house physicianship under Murchison and Bristowe, gave him exceptional facilities, and he returned to Canada in 1874 one of the most thoroughly trained men it has been my pleasure to know. Success came rapidly, and in the enjoyment of the esteem of his colleagues, the confidence of the public, and the love of his students, how bright seemed the outlook! But the shadow of an hereditary ailment fell and deepened—and the end has come. To me there remains the memory of a bright, unselfish, loving friend.

WILLIAM OSLER.

Medical Items.

—Dr. Straus has been nominated by the Paris Faculty as successor of Prof. Vulpian in the chair of Experimental and Comparative Pathology.

—Prof. His of Leipzig has been offered the first chair in Anatomy in the University of Vienna, rendered vacant by the death of Prof. Länger.

—The first number of the *Brooklyn Medical Journal* has made its appearance. It is edited by a committee of the Medical Society of the County of King's. We wish this new venture every success.

—Sir Morell Mackenzie, speaking of the Crown Prince's case, says: "At this moment medical science does not permit me to affirm that any other disease is present than chronic interstitial inflammation of the larynx combined with perichondritis."

DARWIN ON HOMŒOPATHY.—In a letter to J. D. Hooker, written from Down, March 28th, 1849, Darwin gives expression to his opinion on this great system of therapeutics:—

"You speak about Homœopathy, which is a subject which makes me more wrath, even than does clairvoyance. Clairvoyance so transcends belief, that one's ordinary faculties are put out of the question, but in homœopathy common sense and common observation come into play, and both these must go to the dogs, if the infinitesimal doses have any effect whatever. How true is a remark I saw the other day by Quetelet in respect to evidence of curative processes, viz., that no one knows in disease what is the result of nothing being done, as a standard with which to compare homœopathy and all other such things. It is a sad flaw. I cannot but think in my beloved Dr. Gully that he believes in everything. When Miss —— was very ill, he had a clairvoyant girl to report on internal changes, a mesmerist to put her to sleep, an homœopathist Dr. ——, and himself as hydropathist, and the girl recovered."—*Life and Letters of Charles Darwin*, Vol. I, p. 374.

CANADA

MEDICAL & SURGICAL JOURNAL

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Original Communications.

PHYSIOLOGICAL AND PATHOLOGICAL REVERSION.

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Writers on evolution, and especially Darwin, have endeavored to explain many curious facts in the forms, colors, and general appearance of animals by reversion to a condition existing in ancestors more or less remote. As this explanation has seemed to be the only one that met the cases, it has been largely accepted. But, so far as I know, physiological and pathological reversion in the sense in which the terms are used in this paper, has not been employed to any appreciable degree by writers of any class to explain phenomena which seem to me to gather fresh interest around them, and appear in a new light when thus viewed.* By physiological reversion I mean a return to a condition functionally similar to, if not identical with, that existing in some lower form; and by pathological reversion, an analogous result dependent on a disordered condition (disease).

It is now almost superfluous to point out that the embryo of the highest mammals passes through stages of development closely allied to the permanent forms of groups of animals lower in the

* It was not till long after this paper had been written, and a considerable time after it had been read before the Medico-Chirurgical Society of Montreal, that I became aware that the principle involved in the discussion had been previously announced by Dr. Milner Fothergill of London in a communication printed in the *Medical Press and Circular* for August, 1886. I am glad, however, to be able to make this acknowledgment on behalf of so bold and original a writer as Dr. Fothergill.

scale. But that there is also a close functional resemblance in many particulars has not been much insisted upon. The subject is so large that the various adaptations in the embryo to an environment that is but temporary can be only indicated, and not treated in detail. It is plain that the embryo of the mammal, being surrounded by a fluid medium and drawing the oxygen supplies for its tissues independently of any actual contact with an atmosphere, must resemble functionally aquatic animals proper in many respects. It breathes by the placenta, virtually as the fish and other aquatic animals by gills. The condition of the blood puts it on a par with lower forms; and, even in the highest intra-uterine stage of development, the blood supplied to the tissues is not completely aerated,—a condition remaining in all forms lower than the birds. Many functions peculiar to the mammal, or, if not actually characteristic, but indifferently developed in lower forms, are still less marked in the mammalian embryo. If there be consciousness, it is of that obscure kind existing only in forms of life low in the scale. Reflexes, indeed, there are in abundance, and probably much nervous automatism; but such limited action of the nervous system is precisely what distinguishes lower from higher groups of animals.

Nor is the adaptation of the newly born mammal to its surroundings immediate. Throughout the first days of the life of the infant, such adaptation is very imperfect, and in consequence many children perish. Further, the resemblance of the infant to animals of lower groups is shown in many directions, and especially in the neuroses and psychoses. The study of infant psychology has of late attracted much attention, and promises most instructive results.

Turning from embryonic and infantile life to the opposite pole of existence, old age, there is much that points in the direction of reversion. It is not a matter of great importance whether we regard this as physiological or pathological. Shakspeare's unrivalled description of the epochs (biological and psychological) of human life will occur to many readers. We must not, however, push the resemblances between the infantile and senile stages too far. There is sometimes a functional likeness which

can scarcely be considered genuine physiological reversion, although it is a species of functional reversion, for the consequences are the same. But in general in both conditions there is an imperfect adaptation to the environment. Moreover, in certain respects the old man reverts rather to the functional condition of lower forms of life than directly to a previous stage in his own existence. Thus the imperfect action of the respiratory, circulatory, cutaneous, and also of the nervous system, by which the functions of the cerebrum and the senses are weakened, are all either physiological or pathological reversions, as we choose to regard the matter. But it is not on such facts, however, that I would rely to establish the principles of this paper.

In the various stages of slow or natural death, we have the clearest evidence of physiological reversion in not one but many different systems of the body.

Normally expiration is largely passive, though possibly less so than the text-books of physiology have represented; but, as is well known, in the dying man this phase, and indeed all phases, of the respiratory act are in turn or contemporaneously modified; there may be a diminution of one phase, and an exaggeration of another, etc. In the frog and turtle both inspiration and expiration are active: in such animals we recognize a function, moreover, of the mouth and pharynx, in respiration, normally unknown in man. Dr. Garland has, however, pointed out that in the tracheotomized dog, and, as he believes, in man under the same circumstances, and also in the moribund, a form of the throat respiration supervenes. He has proved this experimentally in the tracheotomized dog (*Journal of Physiology*, Vol. II). In other words, there is a resemblance to what exists normally in the frog. Garland recognized this, though he has not spoken of it as a physiological reversion. But apart from this minor reversion, it is plain that in general the respiration of the dying bears a resemblance to that of the groups with an active phase in both halves of the act. Further, there is frequently a marked facial and laryngeal respiration, so well seen in the normal breathing of such lower mammals as the rabbit.

Accompanying this alteration in the respiration, there is a great

change in the circulation. As I have shown, as the result of a special study of the subject ("The Rhythm and Innervation of the Heart of the Sea-Turtle," *Journal of Anatomy and Physiology*, Vol. XXI), functional action ceases in the hearts of the cold-blooded animals invariably in a certain order; that is to say, the parts latest developed phylogenetically, as the ventricles, are the first to cease to act. The same applies to the mammal, and I have elsewhere ("A Physiological Basis for an Improved Cardiac Pathology," *Medical Record*, Oct. 22, 1887) expressed the conviction that it is fortunate for man that such is the case. It is difficult to see how the ventricles could retain at once that sensitiveness and power to adapt to the ceaseless and innumerable changes in the inner life of a mammal, and also the resistance so marked in the auricles and the great veins at their junction with the right auricle, corresponding to the *sinus venosus* of lower forms. Now, in the moribund there may be only an occasional beat of the ventricles to several of the other parts of the heart; or the ventricles may pulsate so feebly as to expel but little blood: hence the latter becomes gradually more venous, with corresponding effects in the venous channels, which become more prominent; in the nutrition, leading to lowered temperature generally most pronounced in the parts most distant from the heart; in gradual loss of all the functions of the cerebrum; finally, the only muscles that are functionally active are the respiratory, the sphincters, etc. In a word, the dying human subject sinks functionally lower and lower in the scale of animal life. There is physiological reversion of the widest kind. This seems the most instructive aspect of the facts; indeed, I can see no other way in which a really philosophical significance can be read into such phenomena.

It may be readily perceived that in sleep itself there is a daily reversion. Sleep not only reduces all human beings to the one level, but it puts all mammals on the one plane. Now, it will be seen, if we consider the nervous system, that the parts peculiar to man, or most developed in man, are the very ones that for the time being are as good as annihilated in sleep. Why should this be so? Why should this order be followed? To say that the

parts of the nervous system remaining functionally active are those necessary to maintain the vital functions, in reality throws no light on the question unless we regard man as derived from lower forms, while the whole becomes clear if we admit this. Much the same line of argument applies to the reversions witnessed in hypnotism, somnambulism, and allied phenomena.

Hibernation is one of the most interesting examples of physiological reversion to be found. We witness in the bat, though one of the most active of animals, a return during hibernation to a condition very much like that normally present in a cold-blooded animal such as the turtle; while the cold-blooded groups themselves pass into a winter sleep allied to the quiescent state of plants or the "resting stage" of the infusorians. Reversion alone—physiological reversion—seems to explain such behavior.

These general phenomena prepare us to understand certain results following experiment, which, so far as I know, physiologists have never explained satisfactorily. I shall take my illustration chiefly from cases mentioned in the ordinary text-books, and especially from the magnificent work of Prof. M. Foster, as in that we find subjects usually considered from different points of view.

It has been pointed out that if the nerves supplying the posterior pair of lymph hearts in the frog be divided, though their action ceases for a time, it is eventually resumed; that if the sino-auricular junction of the heart of the turtle be ligatured under favorable circumstances, the action of the auricles and ventricle, temporarily arrested, may be resumed.

In general, if the sinus, or the sinus and auricles, be ligatured off from the ventricle in a frog or turtle, and all the cardiac nerves be divided (precluding the possibility of nervous stimuli reaching them from distinct centres), these parts of the organ, I have observed, will beat more forcibly against the unusual resistance than before.

It is stated that, when the cervical sympathetic is divided, the dilatation and cessation of rhythmic action of the arteries in the ear of the normal rabbit, ensuing, are finally followed by a return to the normal condition.

The latter has been explained by the assumption of a local nervous mechanism, which, though habitually influenced by the central nervous system, suffices of itself when the connection with the nerve-centres is severed; but such local nerve-mechanism has never been demonstrated anatomically. These and many similar cases are explicable by physiological reversion. In lower forms,* in which it is quite impossible to believe in a local nervous mechanism at all, there is pulsation in vessels, etc., owing to the rhythmical action of unstriped muscular fibre or of cardiac muscle. This function of the muscle is no doubt under the control of the nerve-centres in all the higher groups of animals; and when it is exhibited apart from such connection, we naturally seek for an explanation. To my mind, the only one adequate is to be sought in physiological reversion. Whether there are not examples of it even when the nervous system is intact, as in excessive action of the bladder, ureter, etc., in cases of obstruction, is worthy of consideration.

Dr. Pye-Smith (*Journal of Physiology*, Vol. VIII) has maintained, from certain experiments made by him, that the vessels of the ear of the rabbit, etc., do not regain their tone after section of the nerves concerned, and concludes that nerves are not essential to nutrition. However it may be as to the first proposition, I cannot help thinking that the author's conclusions are broad to the verge of decided error when applied beyond the case in point. Assuming, however, that in most instances the vessels do not regain tone, I should interpret the case as one of still more remote reversion to a condition when nerves were not required for nutrition,—a condition existing in several large groups of animals. Such a case in the mammal must be very rare, however, and is offset by thousands of facts that show that nutrition is dependent on nervous connection.

It would appear that oxygen may be absorbed both from the skin and the alimentary canal; and, if we may judge by many analogous instances, this capacity would be augmented when the individual greatly needed such help, owing to imperfect action

* This subject is discussed in my paper on the "Causation of the Heart-Beat," etc., in the CANADA MEDICAL AND SURGICAL JOURNAL, January, 1887.

of the lungs. In such instances we have, on the one hand, a retained function operating in man to a very minor degree; but, as is now well known, in batrachians the skin is an important respiratory organ, though also one acting very much in a manner supplementary to the lungs, as circumstances necessitate. When in man the skin and alimentary canal function as respiratory organs to an unusual degree, we have physiological or pathological reversion.

It is well known that in certain pathological conditions (hysteria, etc.) large quantities of gas are secreted by the alimentary tract; nor is this so surprising when it is remembered that the digestive canal and the respiratory organs have a common origin from the same cell layers of the embryo.

If our swallowed oxygen can be absorbed by the alimentary canal, of which there is no reasonable doubt, it is plain that we retain a function discharged by an analogous organ, the air-bladder of fishes.* Certain groups of turtles (if not all, occasionally, as I believe) have a species of pharyngeal respiration. Oxygen is absorbed from the water gulped into the pharynx, and possibly the case of absorption of gases from the alimentary canal of mammals is still more like this than the analogous instances already mentioned; but, at all events, there is a potential capacity in the alimentary tract of man for respiratory functions which is unquestionably under certain circumstances considerably developed; and the most natural explanation is physiological reversion.

In an allied system, the renal, we have evidences of physiological reversion. In most fevers the skin is less active, and the kidneys function excessively or at least differently; the urine, though scanty in quantity, is of high specific gravity, and thus resembles more the same secretion in not only lower mammals, but the lower divisions of vertebrates. In a whole host of diseases† there is a great increase of a constituent which is but scantily present in normal urine—uric acid. But uric acid replaces urea in fishes, reptiles, and birds; and in not a few cases in man in which the uric acid is increased the urea secretion is

* See a paper by Gage in the Proceedings of the American Association, vol. xxxiv.

† The writer discussed the subject of uric acid in a short paper in the *Medical News* for June 27, 1885.

diminished. That man's kidneys should thus have the capacity to function in a manner analogous to those of lower forms, calls for explanation. The fact that in such cases the reversion does not wholly cover the functional disturbance arising from or giving rise to this change, is not a serious objection; for it is not to be supposed that an animal adapted to new conditions should, by any reversion to an ancestral state, escape wholly, or even in great part, the penalties of incomplete adaptation.

In the digestive system of man and other mammals we have interesting instances of physiological and pathological reversion. Regurgitation of food is normal in some birds, and I am inclined to believe that it is more common in lower vertebrates than has been as yet clearly ascertained. But the remarkable regurgitation of ruminants seems to be a specially developed function. Different groups of animals vomit with very varying degrees of facility. There is to my own knowledge in man a tendency to antiperistalsis in the œsophagus, if not the pharynx, independent of acid eructations. Some individuals experience this when there is interference with the regularity of the action of the bowels. Cases have been reported in which there seemed to be habitual regurgitation of food, like that of birds or even ruminants. Here, again, the most natural explanation seems to be that the alimentary canal of mammals, including man, retains a capacity to revert to a condition existing in a higher degree in antecedent forms; or, to interpret the matter slightly otherwise, that man retains a capacity which in some lower forms has been specially developed (ruminants, etc.), and which in himself, under certain abnormal circumstances, becomes greatly developed,—facts explicable by general community of descent.

In the conditions in man referred to above, the mere law of habit does not of itself suffice to explain the facts; indeed, apart from the wider laws of descent, there is very little basis for the action of such a principle; there is no fulcrum for the lever, or, at best, a very unsteady one.

In diseases of the blood or blood-forming organs we have some remarkable instances of functional reversion. Though exact quantitative determinations of hæmoglobin are wanting for most

lower vertebrates, there can be no doubt that in mammals the quantity of this substance furnished to the system within a given time is much greater than in those groups requiring less oxygen for their tissues, in consequence of a feebler cell activity. But in cases of anæmia in man the quantity of hæmoglobin may be greatly diminished, one result of which is that the subject is reduced not only as regards the condition of the blood, but in several other respects, to a state bearing a more or less close resemblance to life in the lower vertebrates. There is diminished activity in the locomotor, the nervous, and other systems of the body. The subject requires rest, careful feeding, quiet of the mind, etc. The treatment is unconsciously based on this fact of reversion. It may be stated, in truth, that the anæmic subject is unable to discharge the functions which are most characteristic of man, and that he naturally deports himself like a lower form. In leukæmia there is a still more marked reversion, for the blood in this disease approaches the condition found in the invertebrates, in which, as a rule, the red blood cell or hæmoglobin in any form is wanting. This being the case, it is not surprising that the disturbance of the normal functions is so great; the marvel is rather at man's capacity to adapt at all to such unnatural conditions; which, however, is clearer on the doctrine of descent from lower forms and in the light of the conception of physiological reversion than by any other explanation.

In that form of anæmia or chlorosis due to an imperfectly developed vascular system generally, we surely have a clear instance of reversion, so marked that during the whole lifetime of the individual there may never be other than the most defective adaptation to environment.

Instances of cyanosis due to permanence of fœtal conditions of the circulation, and therefore resembling those normal to the frog and turtle, are such clear cases of human reversion as only to require mention.

In cases of valvular diseases with dilatation of the heart, or, indeed, any condition of this organ that permits of regurgitation with imperfectly aerated blood, we have similarly a reversion. It will be found that in not a few diseases of the heart,—in the

condition of that organ during fainting; after shocks which have temporarily suspended many functions of the nervous system, and in consequence greatly imperilled life,—in all such cases it will be found that those parts of the heart the earliest developed in the history of the animal series are the very parts to continue their action latest. Now, this is at once fortunate for the mammal, and of great significance, inasmuch as the latest investigations show in the clearest way that the action of the ventricles is dependent on the functional integrity of the sinus and auricles, especially of the sinus. Suppose that the reverse were the case, and the sinus (or great veins) and auricles were the first to cease pulsating: the beat of the ventricle would be of comparatively little use; but apart from this, what explanation can be given of this peculiar sequence in the mammal independently of derivation from lower forms, which makes all clear? If this doctrine of physiological reversion went no further than the circulatory system, it would throw a flood of light on the significance of otherwise obscure if not absolutely inexplicable phenomena. But it is to the nervous system that we must look for evidence which places the doctrine beyond cavil to a degree perhaps not equally clear in other parts of the economy.

When a mammal is poisoned by curare, by which the nervous influences normally reaching the tissues and regulating heat-production (and, as I believe, nutrition) are wholly or partially cut off, the mammal becomes virtually a cold-blooded animal. Its temperature rises and falls with that of the ambient air. This is one clear example of physiological reversion experimentally produced. It is, however, only one of many that might be instanced. It is well-known, and can be shown in the simplest manner, that when the head of a frog is removed, reflex action is more readily excited; the same applies to the removal of the cerebral lobes of the mammal. As Goltz has pointed out, one of the most remarkable results following removal of large portions of the cerebral lobes in the dogs which this experimenter kept under observation, is, as I can myself testify, the increase of reflex action. The animal becomes a sort of machine, which one may manipulate at will. A similar result follows in man when

the higher centres of the cerebrum are rendered functionally inactive by disease or injury.

Now, in all these cases the animal loses its own peculiar character, and sinks to the level of some form lower in the scale. All will agree that the higher forms of true automatic (spontaneous) action in the physiological sense are dependent on the existence of the cerebrum. It follows, therefore, that the lower we pass in the scale of life, the more machine-like animals become.

Pathological reversion is most plainly illustrated by the results of hæmorrhage into the cerebrum. Dr. Hughlings Jackson has so well described the order and relation of the various events, that I shall here quote his own words in describing lesions of the cerebrum (*corpus striatum*), from hæmorrhage :—

"It will be found that those parts suffer most and suffer longest which have the more voluntary uses. This is notorious of the arm and leg: the arm nearly always suffers more, and recovers later, than the leg. Of course, the distinction into complete and incomplete hemiplegia is artificial. There are all degrees of paralysis according to degrees of gravity of the lesion. But there is an order in which paralysis increases in increasing gravity of lesions. We observe that the graver the lesion, not only are the more voluntary parts (arm and leg) *more* paralyzed, but that the further spread in *range* is the paralysis, and the method of its spreading is from the more voluntary to the more automatic parts. Thus, neglecting very small clots, a considerable lesion paralyzes only the most voluntary movements of one side of the body, those of the face, arm and leg, and these parts in degree according to their degree of voluntary use. A larger lesion not only causes a deeper and more permanent palsy of these three parts, but it leads also to implication of more automatic parts. In still larger lesions the palsy spreads to the *most* automatic parts of the body, even to parts supplied by ganglionic nerves. It produces stertor from palsy of the palate and palsy of the respiratory muscles and of the heart,—the palsy of respiration and of the heart showing itself chiefly in *slowness* of movement. There is also abasement of temperature."—REYNOLDS'S *System of Medicine*, Vol. I.

I have intentionally quoted the exact words of this eminent investigator of the abnormalities of the nervous system constituting disease, so that their interpretation alone may rest with me.

It being granted that the lower we pass in the scale of animal life the more machine-like or automatic does the organism become, it will be clear, that, taking the various degrees or grades of paralysis as described above, we have likewise degrees of resemblance to lower forms; *i.e*, the graver the paralysis, the lower in the scale must we seek to find an animal comparable to man in this condition. The slowing of the heart and the lowering of the temperature are both modes of approach to the normal functional condition in cold-blooded animals.

When we add to this, or take by itself, paralysis of the muscles of the face, by which the expression peculiar to man is lost, we have a condition plainly like that in lower mammals, and, in extreme cases, even like that of the lower vertebrates, in which facial expression as determined by muscular action is minimal.

It must be conceded that the uneducated deaf-mute is in a condition mentally much nearer that of the higher mammals than is his uneducated fellow-man in possession of all his senses. But in aphasia, the result of disease or shock, there is in man plainly a marked reversion to a condition mentally resembling that in the "dumb-brutes" about him.

In the case of the idiot we have an example of man in many respects inferior to the higher mammals.

But it is not my intention to treat the subject of psychological reversion in this paper. The subject is at once large, tempting, and, to my mind, furnishes evidence the most conclusive for the doctrine of descent with modification from lower forms as an explanation of man's nature.

One naturally looks about for an explanation of such remarkable facts as the order of muscular failure or paralysis as indicated in the paragraph quoted above. The entire brain may be separated from the medulla in a rabbit, and respiration still continue. The lower we descend in the animal scale, the more do we find the brain reduced to a mere repository for mechanisms adapted to regulate those processes constituting the so-called

vegetative functions; but the question again and again recurs, "Why in mammals, why in man, should the functions first to fail be those peculiar to them or to him, and not the reverse?"

The longer even in the lifetime of a single individual a certain form of muscular action has been practised, the less attention is required for its performance, the less voluntary, the more automatic it becomes. But would the duration of man's existence on this planet suffice to explain, on any system of gradual progression or functional improvement, the wonderful automatic action of all of those mechanisms essential to the maintenance of life?

The doctrine of descent renders the whole plain enough; and unless we adopt the view that man appeared suddenly and independently upon the scene, fully equipped for the battle of life, it seems but rational to assume that with all his departures, both by way of progress and retrogression, his functions are what they are by reason of such relationship as we are indicating. The morphologists have done much to account for the affinities of form or structure in the animal series: it remains for the physiologists to do their part in showing how the functions of the higher animals are related to the functions of the lower.

But once accepting this position, it is possible to explain phenomena following experiments on animals, and growing out of the experiments disease is producing, or, as I would prefer to say, the phenomena which are the deviations from the normal that constitute disease. Disease is no entity in itself, though we often use language which might lead to the belief that we so conceived of it.

When the normal adaptations to environment on which the very existence of an animal depends are disturbed, what more natural than that there should be a return to a functional condition prevalent in some ancestral group, or common to a host of such groups, as the case may be?

PSEUDO-TABES.

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In true tabes there is a wide difference of opinion as to the pathogenesis and morbid anatomy. At one extreme you find such men as Gowers and Charcot, who stoutly maintain tabes dorsalis is primarily and essentially an inflammation; while at the other extreme you have such an able pathologist as Ziegler, who looks upon it in all cases as a primary degeneration. Though my own means of observation has not been sufficiently extensive in true tabes to justify me in being dogmatic, I must nevertheless place myself between these two extremes, and ask leave to regard some cases as a primary inflammation, whilst others must be classed from the beginning as a degeneration. These few points on true locomotor ataxia are mentioned simply to show that the pathology and morbid anatomy of those cases that end in death are not yet settled. When this is the case, it is only right that we should keep ourselves in a receptive frame of mind, ever ready to accept information with regard to a certain number of cases that run, more or less faithfully, through a great deal of the clinical history of ataxy, and yet end in recovery, more or less complete. Such cases as these we meet with from time to time in the journals. Now, though I do not wish to be understood as saying that true tabes may not have periods of quiescence or even improvement, I do claim that there are instances among these reported cases which properly come under the caption, pseudo-tabes.

Let us look at the matter without any leanings, and ask ourselves the question, Why might these not be a simulated form of tabes? All the organs in the body are often affected with temporary disorders that pass away, and yet may have given rise to clinical symptoms that mimic the symptoms produced by organic and permanent changes. Of this statement we have a good instance in albuminuria. There is no reason for supposing that the nervous system is exempt from temporary and curable morbid conditions which, as far as they go, start into existence a

chain of symptoms similar to those dependent upon a hopeless pathology.

But let us go a step further. The more closely the morbid anatomy is found to have been confined to the posterior columns and root zones, the more closely did the clinical history follow the typical form of the disease which we agree to call locomotor ataxia. On the other hand, the more the clinical symptoms depart from the standard type of the disease the greater are the deviations found after death in the morbid anatomy, and the greater our reasons for believing that the case is other than a true tabes. Such was Westphal's teachings, as shown by his writings on the knee-jerk. We all know the position taken by Julius Althaus on this phase of tabes. He says that when the symptoms are irregular the pathology is mixed; and if there be an ataxy with increase of the deep reflexes, then there is either disease in the lateral columns or insular multiple sclerosis. From these facts it is clear that if we meet with a case—and many of us may have met with such a one—where there is well marked incoördination, and, at the same time, an increase in the deep reflexes, it behooves us to be on our guard lest this combination of symptoms may play a false game with us, and lead us into no small degree of error in our diagnosis. Still more, it has been shown by Leyden that in a really true tabes there may be other symptoms in no way due to the lesion of the tabes, and that nevertheless make the case very obscure and for a time renders a positive diagnosis an impossibility. Now, allowing ourselves to be guided for a moment by such an able observer, who states that irregular symptoms may appear, we are forced back upon the unimpeachable ground that there must have been an irregular pathology. Nor is Leyden alone in such a statement with regard to irregular and masking symptoms, for Erb, Charcot and Pierret, Gowers and Ferrier have all made the same admission.

At this point another very interesting problem comes before us. There are cases of complete anæsthesia of both cerebral and spinal origin, in which the patients were thoroughly ataxic with the eyes shut, but could walk without ataxy if the eyes were open. It is such cases as these that lend support to Erb's

view that ataxia in some cases is due to lesion in spinal centrifugal coördinating conducting paths. For in those cases just mentioned there is complete anæsthesia of spinal or cerebral origin, so that the only normal conducting paths left are the motor or centrifugal. The centrifugal or motor tracts therefore must have some coördinating power, as such patients can walk without the ataxic gait, provided they be able to see where they are going. Lesions, then, in the spinal cord that would affect these paths would certainly give rise to some degree of ataxy, and yet the posterior columns be free from any morbid changes. Such a case would not, however, constitute a true locomotor ataxia, nor does Erb ask such a distinction for it. It would therefore come under the group of the pseudo-tabes. Opposite to this view of Erb's we must place that of Ferrier, that the spinal cord contains synergic coördinating centres that control the motion of muscles to some extent, without the necessity of these being coördinating conducting paths, as held by Erb. This difference, however, would not be a vital distinction, as disease of either the paths or centres would cause some ataxy on the ground of either of these views. In such cases as those under consideration there is some derangement that counteracts or neutralizes the effects of past experience and education, and consequently the persons have once more to go back to the habits of earlier life and guide their actions once more by eyesight. So long as they are granted the use of their eyes they can walk without giving signs of ataxia ; but the moment they close their eyes, that moment they become ataxic and lose the power of coördinating their actual movements or maintaining their equilibrium in the erect position. Such a condition, however, is not that of a true tabes.

Passing on, we come to another and very interesting class of cases in which many of the symptoms of tabes dorsalis may appear. It has now been thoroughly proven, both by direct experiment and by careful post-mortem examination, that there is a frequently occurring descending degeneration of the cord, consequent to injury or disease of the brain. This degeneration may so affect the cord as to occasion mainly paresis of motion ;

or it may involve the posterior columns and posterior root zones, producing symptoms that imitate closely many of those that belong to true tabes dorsalis. Such cases as these are essentially a degeneration, and would be of that character which Ziegler believes to be the rule—a degeneration and not an inflammation. The question may be here raised that we would have the precedent history of brain disease. This is very true ; and yet the symptoms of some of these cerebral cases have been so obscure that many of the very ablest clinicians admit the difficulty and acknowledge to having made mistakes during the life of the patient, the post-mortem table revealing the fact that the so-called case of tabes had its incipiency in the brain. When the tumor or disease is cerebellar, the mistake of regarding the case as tabes is very easily made. The pseudo-tabetic symptoms in some of these cases so closely resemble those of true tabes that the most carefully minded may readily fall into error. In such a case, due to syphilis, it is easily understood how a specific line of treatment can effect a cure, and lead the attendant into the belief that a case of genuine tabes has recovered under the use of specifics.

While dealing with the cases that have an intracranial origin, I shall briefly relate the histories of two instances which have fallen under my notice at different times. The first is an example of undoubted syphilis and its sequences. This young man contracted the disease about five years before the date at which I saw him for the first time. He was under the care of a regular physician in this city for about a year, by the end of which time he was considered well. Some two years afterwards his trouble returned, as he thought, and he went to the Hot Springs, where he remained for some six weeks, and brought some medicine home with him. Everything went on well again for about a year and a half, when he began to notice his speech to be a little thick and his sight and memory impaired. Then he began to have a steady pain in the back of his head, running down the back of his neck. This pain increased to a very extreme degree. Gradually he experienced difficulty in walking. When I saw him in May, 1885, the gait was quite ataxic. The reflexes were

still present, though weakened. The left pupil was extremely contracted; the right just as extremely dilated. The face was drawn to the right, while the tongue pointed to the left. The right side was more paretic than the left. The retinæ were hyperæmic. From these symptoms it is only fair to conclude that there was some disease affecting the cerebellum, as well as the motor area of the left cerebral hemisphere. And I regarded the trouble at the time as a thickened and hyperæmic condition of the meninges. Under the free use of anti-syphilitic remedies he got well. His pupils are now perfectly equal, the pains are all gone, the reflexes are normal, he can stand and walk with closed eyes, and every trace of ataxy has taken its departure. When one recalls the amount of ataxy that existed in this case, the weakened reflexes, the loss of equilibrium when the eyes were closed, the severe darting pains that shot down his extremities, the slow rate of travel of sensation, and the occasional visceral pains he had, we must admit that his case simulated much that we meet with in true tabes. Notwithstanding all these symptoms, I do not think there was any real disease of the posterior spinal columns. I think medical literature will bear me out in the statement that in real tabes, with symptoms so well marked as in the case just recorded, a recovery so complete could not have occurred. W. R. Gowers' own words are "that a perfect recovery scarcely ever takes place." In this case we have an example of pseudo-tabes along with positive brain symptoms arising from an attack of syphilis. My own opinion is, that had there been lesions in the spinal cord of sufficient extent to cause the tabetic symptoms that were present, the patient could not have made the recovery he did even under the circumstances of these lesions being due to syphilis.

The second case which I desire to mention along with the above is that of a man about 70 years of age. Nearly three years ago he had an attack of hemiplegia. The right side of the face and the left side of the body were very much affected, the leg being perfectly limp. The patient improved some from the hemiplegia, and was able to sit out of bed, helping himself about by chairs and other objects in the room. Since then there has

steadily developed a very distinct amount of ataxy in the right arm and leg. Of the arm, it is very interesting and instructive to watch the movements in the attempt to pick up some small object, and the patient sometimes makes a great many futile efforts before he can place his finger on his nose. He has suffered on a few occasions with severe lancinating pains, especially along the fifth pair. On three separate dates he has had an attack of laryngeal crisis, in one of which I thought he would die. There is distinct atrophy of the skin. The tendon reflexes are wanting. He retains power over the rectum, but a catheter has to be used to empty the bladder. Here, then, we have one of those cases of tabes where the spinal trouble is secondary to the cerebral lesion, and partakes of the nature of a descending degeneration. It has been shown by careful observations on the human subject, and by experiments on the monkey, that when ataxy comes on subsequently to a lesion in the brain, if the brain repair is sufficiently early and sufficiently complete, the ataxic symptoms not infrequently slowly disappear. In the case I am now considering, such a result as this cannot be expected.

There is another and a very rare form of false tabes in which there is neither a degeneration in the sense that Ziegler uses the term, nor an inflammation of the posterior columns and root zones as understood by Charcot and Gowers, but rather some kind of derangement of the posterior columns. What the exact nature of this derangement is it is difficult to say, as there have been no post-mortem examination that I can find throwing any light upon such cases. Yet it seems to be recognized that the ataxy is of spinal origin, while on the other hand the cases are not fatal, but after a varying period get well. My own view of these cases, based on the accounts I have been able to find and upon one case of my own, is that the pathology consists of a hyperæmia of those portions of the spinal meninges that cover the posterior columns and dip down into the posterior fissures. In this way the vascular supply to these parts of the spinal cord would be altered, and there must, of course, ensue changes in function due to both pressure and altered nutrition. The case of my own to which I have just referred was a young woman of

22. She told me that she had had a similar attack on a previous occasion. When she consulted me first it was for pain along the entire length of the spine. A good many things were tried for its relief, but with very little success. She never had syphilis. The pain continued, and she became ataxic; the reflexes in both knees weakened until it became difficult to elicit them at all. She could not stand or walk with her eyes closed. The pupils were both dilated, and very slow in response to light. She suffered some, though not very severely, from shooting pains in her legs. Cutaneous sensation was lessened. She had constipation, and injections had to be given. On some half dozen occasions I had to use the catheter; she was annoyed with a frequent desire to micturate. There was almost constant formication, which she stated existed mainly down the back, sides, and over the abdomen. The perception of pain travelled slowly. It required four seconds to feel the prick of a pin in the soles of the feet. She had one attack of vomiting with great pain. Her illness extended over a period of five to six months, when she began to get well. The knee-jerk steadily returned, cutaneous sensation improved, the response of the pupils to light became normal once more, and the digestive functions regular. She described her symptoms very minutely with regard to her former attack; and there can be no doubt but that it was of the same kind, though not so severe. Here, then, we have an example of what might be called for the present, till more is known of such rare and obscure cases, recurrent pseudo-tabes. Whatever may have been the real condition present, one thing is certain, that there was no organic change in the structure of the posterior columns, as found in true tabes. Further, it was not secondary to any intracranial lesion, it did not follow any sickness, nor was she using any drug at the time, and I think it is equally clear that the case was not one of ascending neuritis of peripheral origin from exposure or cold.

And now for a few words on those cases of pseudo-tabes arising from peripheral neuritis. This class may be very conveniently divided into three subordinate classes: 1st, Those following some special disease where there is a poison in the system, as

diphtheria, syphilis, &c. 2nd, Those resulting from the use of toxic agents, as the pseudo-tabes of arsenic. Of this condition I have had the opportunity of noting two cases; one of these I reported at the Ontario Medical Association, the other I intend making a report upon at some future time. 3rd, Those coming on after cold and exposure. In all these forms there may be marked ataxy, loss of and irregular conditions of sensations, reduced or absent reflexes, characteristic pupil symptoms, crises, lightning pains, vaso-motor and trophic disturbances, and faulty action of the bladder and rectum, and yet the patient get well. Though we do not get a post-mortem, we are safe, I think, in drawing the conclusion that the posterior columns of the spinal cord, or, as Charcot and Pierret would prefer to say, the posterior root zones, were not the site of any organic change, either of degeneration, as Ziegler claims, or of chronic inflammation, as first shown by Turck. To Hippocrates is due the honor of having recognized locomotor ataxia, which he attributed to venereal excesses. He still further noticed that a certain number of all ataxics recover.

Bazire, Zenner, Bastian, Duchenne, Trousseau, Charcot and Landry have all described cases of a very interesting character which could not be grouped under any of the headings already considered. In these cases the persons possessed ordinary tactile sensation to its normal extent. They could walk, if allowed to see where they were going. They could move their arms and legs under their will freely, but had no knowledge of the force, extent or rapidity of these movements. They could form no estimate of the strength needed to overcome any particular obstacle, nor could they form any estimate of weight when tested by different methods. These patients cannot tell the position of their limbs in bed except by the use of their eyes, and yet sensation remains good. They cannot measure relative space. The deep reflexes may be increased in some cases, while in others they are greatly lessened. There may be spasms or twitchings. Some of the cases followed epilepsy; others followed injury to the head, leaving no evidence of brain lesion when this organ was examined subsequently. Other cases did not appear

to have any special forerunner, whilst in some there was lesion of the Rolandic area of the brain. The fact is that the derangement is loss of the muscular sense, by which we judge of weight and resistance. It is not my intention to go into any details regarding this sense, either physiologically or psychologically. In Bastian's own words, when the muscular sense is lost we have (1) defective knowledge of the extent of the movements executed, either actively or passively, as well as of the position of the limbs, when the eyes are closed; (2) difficulty in discriminating differences in weight or degrees of resistance when muscles are called into play; (3) difficulty in accurately performing given movements when the eyes are closed.

Some of these cases have tested the skill of the most astute of clinicians to make a positive diagnosis between true tabes and a simulated form arising out of the loss of the muscular sense. In these cases we have much, sometimes very much, of the clinical appearance of locomotor ataxy; and not the slightest trace of disease in the spinal cord in such instances as have afforded a post-mortem. In these cases we find that sensation remains; and that motions are free if guided by sight. The deficiency lies in connecting these two great factors together, and in performing the so-called automatic and subconscious movements of the body in an orderly and coördinated manner.

PHARMACOLOGY OF ARSENIC.*

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It is far from being my intention to deal with the entire subject of the pharmacology of arsenic. The subject is a very extensive one, and in some directions has been fairly well worked out; while in other directions we know little or nothing about the true action of arsenic. Having had some experience of some of the less common actions of this agent, I thought it a duty to bring it before the notice of this Society.

The following are the points in the pharmacology of arsenic that I intend dealing with:—

1st, The cause of the symptoms in cases of poisoning by arsenic.

* Read before the Medico-Chirurgical Society of Montreal.

2nd, The influence of arsenic in skin diseases.

3rd, General and localized arsenical erythema.

4th, Arsenical staining.

The first point I intend referring to is the explanation of the action of arsenic on the intestines when given in over-doses. The well-known fact of over-doses of arsenic in bringing about profuse watery stools—(*stools closely resembling those seen in Asiatic cholera*)—is generally explained on the at first sight very plausible assumption that arsenic, being a powerful irritant, sets up a severe gastro-enteritis. Now I believe it is very exceptional for arsenic to bring on this severe inflammatory action. There is no doubt but what the drug is a powerful escharotic, but it is very slow in its action, entirely too slow to account for the sudden and great vomiting and purging which follows its action. That these symptoms—that is, the vomiting and purging—are not due to a gastro-enteritis in the cases I am about to relate is, I think, sufficiently clear.

The first case is that of a girl.

A. S., aged 19, was admitted into the Montreal General Hospital five or six hours after swallowing two ounces of "Rough on Rats." Retching and vomiting very severe; intense thirst and pain over the stomach; pulse 120. Vomiting continued unabated up till her death, which occurred on Sept. 10th, four days after the injection of the poison. Twenty-four hours before death a profuse watery diarrhæa set in.

At the autopsy, performed by Dr. Johnston 80 hours after death, there was found near the pylorus, on the anterior surface of the stomach, an elongated ulcer 1½ by 1¼ inches, with firm, rounded, undermined edges, base of the ulcer, which consisted of the muscularis, was smooth. At one place there is a few shreds of slough attached. No hyperæmia in the neighborhood of the ulcer or elsewhere in the stomach. Microscopically there was no fullness of the blood-vessels to be detected. Beyond slaty pigmentation of the solitary follicles, nothing abnormal was to be detected in the intestines.

With the exception of the ulcer found in the lower part of the stomach, nothing was found in either the mucous membrane of

the stomach or intestines to account for the constant vomiting and also the purging from which she suffered the day previous to her death. It is a question whether the ulcer was not an ordinary chronic gastric ulcer. Dr. Johnston at the time considered it to be of this nature. Even granting that the arsenic was the cause of this ulcer, its presence does not account for the uncontrollable and incessant vomiting.

CASE II.—E. S., aged 35, a prostitute, swallowed an unknown quantity of "Rough on Rats" on the evening of the 29th of October last. Eighteen hours afterwards she was admitted into the Montreal General Hospital in a state of great depression. Her pulse was 150, very weak and thready; respirations quiet; pupils somewhat dilated. She was quite conscious, but was unwilling to answer questions. She lay with her eyes closed on her right side, and groaned occasionally. There was profuse serous diarrhœa, with occasional vomiting. She sank rapidly, and died unconscious at 4 A.M., 33 hours after taking the poison.

Section forty-eight hours after death, performed by Dr. Johnston.—The stomach contained a quart of dark-brownish, opaque fluid, mixed with strings of mucus, and at the dependent portions this mucus was intimately mixed with about half an ounce of a heavy, dense, white powder, among which some glistening crystalline particles could be seen. These crystals, on examination, proved to be arsenious acid. The mucosa showed no signs of post-mortem digestion. There was no hyperæmia. The vessels were injected only in two spots, both situated posteriorly, one near the pylorus, the other just below the orifice of the œsophagus. Over the former the superficial part of the mucosa was defective. The intestines contained a considerable amount of thin, serous fluid. The mucosa was neither swollen nor hyperæmic. There was no ulceration or adherent mucus. The only anatomical change was in the solitary follicles, especially in the ileum and ascending colon; they were large, firm and opaque white—distinct evidence of syphilitic lesions. Ecchymosis beneath the endocardium of the right ventricle, near the papillary muscle.

This case may be taken as a typical instance of arsenical

poisoning, and without any evidence in the mucous membrane of the intestines of any irritation or inflammation. This patient undoubtedly came to her death from the action of the drug on the circulation. The profuse diarrhœa so lowered the blood-pressure in the arteries that the circulation could be no longer carried on.

Case III.—Dr. Johnston has kindly given me the notes of a case of poisoning which occurred recently out in Sherbrooke. In this case an arsenical paste was applied to a fungating epithelioma of the dorsum of the foot. The patient was a woman aged 60. No reliable history of the symptoms during life. There was, however, vomiting and purging. There was no appearance of inflammation in the gastric mucous membrane. Intestines showed nothing abnormal beyond a slight excess of mucus in the jejunum. On washing this off, mucosa looked natural; the large bowel normal. All the internal organs were found to contain traces of arsenic, especially the liver.

We see here the same prominent symptoms produced—viz., vomiting and purging, even when the drug is applied externally. Arsenic is eliminated by the liver, gastro-intestinal and bronchial mucous membrane principally, and it brings about the same prominent symptoms, no matter how it is introduced into the blood.

At times arsenic in over-doses suddenly brings about a state of deep coma, death occurring rapidly without any symptoms whatever referable to the gastro-intestinal mucous membrane. This is the so-called "Arsenicismus Cerebro-Spinalis." I have no cases of this character to lay before you.

The death here is in all probability principally owing to the great and sudden loss of blood-pressure. The nerve-centres are the first to feel the effects of this loss, and death may follow before there is time for the development of any other symptoms.

The recognition of the cause of death in cases of arsenical poisoning is an all-important factor in the treatment. The treatment of a case of arsenical poisoning, where violent inflammation of the gastric and intestinal mucous membrane is the cause of the symptoms, ought to be entirely different from arsenical

poisoning where the symptoms are due to great dilatation of the abdominal arterioles. In the one case we use agents to combat the primary and secondary effects of the inflammatory action of the mucous membrane, while in the other the pressing indication is to raise the fallen pressure. The treatment of the former needs no reference in this place.

I would, however, strongly urge the importance of treating the lowered blood tension by the same means which Cantani has found so successful in the treatment of Asiatic cholera. There is a very close resemblance between arsenical poisoning and Asiatic cholera. In both death is commonly brought about by the immense serous loss from the blood.

In the collapse of cholera, the Italian physicians during the recent epidemics have had gratifying successes with the hypodermic injection of large quantities of serous fluids, the object being to supply the water and salts lost through the great transudation. The following solution is suitable for injection:

Sod. Chloride, . .	4.00
" Carbonate, . .	3.00
Water, . . .	1000.00

From six to ten ounces of this solution can be injected hypodermically every two or three hours. Three or four ounces can easily be got rid of in a few minutes even if injected in the one spot. Cantani has given the name of hypodermoclysis to this method of introducing fluid into the blood. It is more efficient than the injection of fluid into the rectum. The water injected into the rectum is apt to be quickly thrown out, while that introduced under the skin is at once taken up and replaces that which is lost.

No doubt arsenic is a protoplasmic poison, and will consequently tend to cause cardiac depression, but the clinical history and mode of dying point, I think, with great clearness to a lowered blood-pressure being the cause of death. This lowered pressure is brought about through paralysis of the splanchines.

II.—The Pharmacology of Arsenic in Diseases of the Skin.

For one hundred years arsenic has been employed in various

forms of chronic diseases of the skin. At the present time its use is by many limited to the treatment of chronic eczema, psoriasis and pemphigus. There are, however, many dermatologists who have no faith in it at all. We have direct proof of its marked influence over the nutrition of the skin. Ringer and Murrell noticed that in frogs poisoned by it the cuticle could be stripped off the whole body with the greatest readiness within a few hours of its administration. This condition was found by Nun to depend upon softening of the protoplasm of the columnar layer of cells in the epidermis, so that the cuticle remained attached to the epidermis only by a few protoplasmic threads.

Arsenic is eliminated by the skin to some extent, and there is no doubt that during this elimination there is an action set up which tends to restore the skin to its normal state. I believe, however, that the mainly beneficial action of this drug on the skin is not a remote local action, but is brought about indirectly by the influence of the arsenic on metabolism.

There is no necessity here to refer to the wonderful hæmatinic influence of this agent. This regenerating influence on the blood cannot be a direct one, as is the case with iron. It is an indirect action—a result of the influence of the agent on metabolism. This is what physicians meant when they used to speak of the alterative influence of arsenic.

Very recently Mr. Jonathan Hutchinson has attempted to prove that arsenic may, if continued for years, bring about a cancer of the skin. The cases which he narrated as sustaining this statement were few in number, and were far from conclusive in the evidence they presented of the truth of this assertion. It is, however, the bounden duty of every one who prescribes this agent to have in his mind the possibility of its being able to induce epithelial cancer.

Arsenic frequently, however, gives rise to marked eruptions on the skin, and which may prove very troublesome unless the cause is quickly recognized. It is surprising how quickly some of these effects are brought about.

Three years ago I prescribed a mixture of Fowler's solution three times daily for a powerfully-built man who was at the time

suffering from a very profound anæmia. After the sixth dose he felt feverish, and noticed slight swelling and redness on his hands and forearms. The redness of the skin spread rapidly and soon involved the entire body except the face. On closely examining the reddened skin, it was found covered with countless papules about the size of millet seeds. There was great œdematous infiltration of the forearms, the integument of which had a dark color owing to the venous return being interfered with by the copious transudation into the subcutaneous cellular tissue. This was a case of erythema multiforme, or general erythema, set up by arsenic during its elimination through the skin.

At the present time I have a man attending my out-door clinic at the General Hospital who is suffering from pseudo-angina pectoris. Arsenic has been prescribed now on several occasions, and its action is invariably followed by a diffuse erythema confined to the face, which quickly disappears when the drug is stopped. A curious symptom, too, is the wart-like excrescences which form on the dorsal surface of the fingers and hands. This quickly disappears on his ceasing to take the arsenical mixture. It appears to me to differ from the erythematous affection of his face only in affecting the deeper layer of the skin and in being localized. In both cases there is desquamation, in the case of the erythema, of the superficial layers, and in the case of the wart-like excrescences, of the deep layers of the skin as well.

Another very peculiar action of arsenic is the production of a brown staining of the skin. I have had an epileptic under treatment now for two years with bromide of potassium. When he first commenced the use of the bromide it produced a very disfiguring acne; by combining it, however, with Fowler's solution this was in a great measure prevented. He, however, had not been taking the arsenic for any length of time before there appeared a brown staining of the skin, which was general, but more marked on the face and hands than elsewhere. The boy's mother was in a state of great alarm lest her child should turn into a "nigger." At the time I was not acquainted with the fact that arsenic may give rise to staining of the skin. On discontinuing the arsenic the staining slowly disappeared.

Arsenical staining is not permament. It differs, therefore, from silver staining, which is permanent. The latter is due to the actual deposition of the metal in the tissues. The staining from arsenic, on the other hand, is simply pigmentary, and always disappears after the drug is given up.

Hospital Reports.

MEDICAL AND SURGICAL CASES OCCURRING IN THE PRACTICE OF THE MONTREAL GENERAL HOSPITAL.

SURGICAL CASES UNDER THE CARE OF DR. JAMES BELL.

Anal Operations performed with Antiseptic precautions and dressed Antiseptically.

In the following cases, of which brief reports are given, the routine adopted was as follows. The patient's bowels having been thoroughly evacuated by a purgative (preferably castor oil), and the rectum washed out with an enema of soap and water, a few hours before operation, the perineum was shaved from the coccyx to the pubes, as well as an inch or two of the inner surfaces of the thighs. The parts were then scrubbed with soap and water by means of a nail-brush and irrigated with a solution of corrosive sublimate (1–2000). In the female, the vagina was also washed out with the same solution. The operation having been performed in the usual way, the wounds were dressed as follows. A cleansed rubber tube about six inches long, and with a lumen of from a half to three-quarters of an inch in diameter, was wrapped from end to end with iodoform gauze to a depth of about a quarter of an inch. The wounds having been carefully cleansed by irrigation with the sublimate solution, this tube was introduced into the rectum to a distance of about an inch above the upper limit of the wound. A sublimated gauze dressing was then applied, through the centre of which the tube protruded for a couple of inches. This method of dressing, which was adopted by the operator from Prof. Küster of the Queen Augusta Hospital in Berlin, is intended to allow of the escape of fæcal gases, blood, etc., through the tube without soiling the dressing, which remains clean and dry in contact with

the wound, and can generally be left undisturbed for from six to eight days, the patient being kept on a low diet, with, sometimes, occasional doses of opium in pill form to prevent any tendency towards defecation.

Removal of Hæmorrhoids with Clamp and Cautery.

Case I.—E. S., aged 52, a healthy, well-nourished countrywoman, was operated upon on the 24th of January last. She had suffered from "piles" for over twenty years, especially during her five or six pregnancies. After the child-bearing period had passed she suffered less for a time, but about a year before admission she began to suffer from great pain at stool, with tenesmus and loss of blood. These symptoms increased gradually until she came to hospital. On examination, a large superficially ulcerated mass was discovered on the left postero-lateral margin of the anus, just within the sphincter. A smaller internal hæmorrhoid existed on the opposite side. They were removed with the clamp and cautery, and dressed as already described. A grain of opium was given every six hours for four days, and the dressing was removed on the eighth day. A dose of castor oil was then given, and the bowels moved without pain. Suppositories containing each five grains of iodoform were used night and morning until the 8th of February, when the patient was discharged quite well and free from her previous troublesome symptoms, having been fifteen days in hospital after operation.

Case II.—M. C., aged 21, a healthy young Englishman, who had suffered for over a year from prolapse, bleeding and tenesums, which was constantly increasing, was operated upon on the 29th of December, 1887. He had two small ulcerated internal hæmmorhoids, which were removed with clamp and cautery. In one of them a small artery spurted with considerable force and volume, but was rapidly stopped with the cautery. A dressing was applied as above described, but about ten o'clock at night (eight hours after operation) a hæmorrhage occurred. The house surgeon removed the dressing and stuffed the anus with gauze saturated with a solution of perchloride of iron,

which seemed to arrest the bleeding. Early in the morning, however, I was hastily summoned, as the man was apparently dying from loss of blood, although none had escaped externally. The patient, who was almost pulseless, blanched and restless, was etherized, and the vessel ligatured, but owing to his weak condition, as well as to the fact that his whole large intestine was full of clotted blood, no dressing was applied and restorative measures were adopted. A febrile condition followed, with superficial ulceration of the rectum from the perchloride of iron application. Warm water enemata and iodoform suppositories were used for several days, until, on the 23rd of January, the bowels having been thoroughly evacuated, the patient was again anæsthetized, the rectum cleansed, and the sphincter ani cut partially through, to give rest to the ulcerated bowel. A gauze dressing, with tube, etc., was again applied. No further symptoms were complained of, and the dressing was removed on the 29th. This patient was discharged quite well (but very weak) on the 9th of February, seventeen days after the second operation.

CASE III.—A. H., aged 27, a healthy, well nourished young man, had suffered for two years with "piles," the symptoms being the painful extrusion of a mass when at stool, and chafing and discomfort about the anus when at work. On examination a large internal hæmorrhoid was discovered on the left side and two small external hæmorrhoids on the right margin of the anus. There was no ulceration, and there had been no bleeding. These were removed on the 2nd of March, and the tube and gauze dressing applied as in the preceding cases. This patient was given a grain of opium night and morning for four days. The tube and dressing were removed seven days after operation, a purgative administered and iodoform suppositories introduced into the rectum night and morning. The patient was discharged eleven days after operation free from pain and inconvenience, and with the wounds nearly healed.

CASE IV.—J. P., aged 46, a pale, but otherwise healthy looking man, had suffered for five or six years from hæmorrhoids,

but for the last two years had suffered very greatly from pain and hæmorrhage. On examination the anus was found to be encircled by a large œdematous ulcerated mass of hæmorrhoidal tissue. This was removed with clamp and cautery as in the other cases, on the 12th of March, and the tube and gauze dressing applied. This dressing was removed on the eighth day; and after purgation iodoform suppositories were used night and morning. A grain of opium was given every six hours for eight days. This patient is still (March 25th) in hospital, but free from pain and other symptoms, and the rather extensive wound is rapidly healing. He has daily evacuations with scarcely any pain.

Operations for Fistula in Ano.

Case I.—A. H. W., aged 60, a pale and emaciated man, presented himself on the eighth of August last with a history of ischio-rectal abscess occurring seven months previously. On examination the whole ischio-rectal fossa was found to have suppurated and burrowed deeply in all directions. There were several small fistulous openings, one of which opened high up on the perineum just below the scrotum, and another into the bowel about an inch above the sphincter ani. The patient was prepared for operation, and on the 11th of August the sphincter was cut through by transfixion in the ordinary way. The other sinuses were laid open, and all were scraped with a Volkmann's spoon. After thorough irrigation the open cavities were stuffed loosely with iodoform gauze, a tube introduced into the rectum and a sublimated gauze dressing applied as already described. A grain of opium was given every six hours, and on the eighth day the dressings were all removed and castor oil administered. After completely emptying the bowels and washing out the rectum the parts were again irrigated and dressed as before. This second dressing also remained *in situ* for eight days, after which the tube was removed and simple stuffing of the sinsues, which were now very much diminished in depth and size, was resorted to. The patient made an excellent recovery, and was discharged five weeks after operation perfectly well.

Case II.—L. S., aged 55, a pale, unhealthy-looking woman, had suffered from fistula in ano for twelve years. Acute suppurative attacks had also repeatedly occurred. On examination several fistulous openings were seen, one of which communicated with the bowel about an inch above the sphincter. Sinuses also extended deeply into the fossa and on the right side a very deep cavity burrowed up alongside of the vagina. On the 27th of August, after due preparation, this patient was operated upon—the operation, dressing and after treatment being in every respect similar to that employed in the preceding case. She left hospital at the end of four weeks contrary to advice, as the sinuses were not quite healed, and as she had still no control over the sphincter. She felt so well, however, that she insisted upon going to resume her work as a servant, but was obliged to return to hospital about the New Year. Three months rest, a little scraping of a sinus and a proper dressing sufficed to heal the wounds soundly.

Case III.—J. McD., aged 40, a stout, rugged sailor, had been some time in hospital suffering from an acute circumscribed swelling in the right ischio-rectal fossa. Very little change had occurred in it, and on examination a fistulous opening was discovered in the bowel just above the sphincter. This was treated on the 5th of September, by cutting across the sphincter and laying the sinus open from end to end. The sinus was scraped, the wound cleansed, and the dressing applied as already described in previous cases. The dressings were removed in four days, and iodoform suppositories used, and the patient was discharged perfectly well four weeks after operation.

Remarks.—In all these cases, as well as in several others treated in the same way, the recovery of the patient after operation was particularly rapid and satisfactory. There was practically neither fever nor pain, and the wounds were always clean and healthy. The infrequency of the dressing is also a great source of comfort to both patient and surgeon. In the treatment of hæmorrhoids, it will be observed that one dressing was usually sufficient, but in the fistula cases it had, of course, to be renewed once or twice.

The second case of hemorrhoids reported is very instructive, as one would scarcely have believed that a small hæmorrhoidal artery would have bled sufficiently freely into the bowel to bring the patient to the point of death from loss of blood. Yet such was the case. The rectal tube may, I think, be looked upon as a safeguard against such an accident, as any considerable amount of blood escaping externally could never be overlooked. On the other hand, I have found no objections to its use.

GYNÆCOLOGICAL CASES UNDER CARE OF DR. ALLOWAY.

CASE I.—*Myoma Uteri.*—Aged 50; very anæmic and feeble. Has had profuse metrostaxis for the past four months; also severe pain. Has had profuse and prolonged menstruation for a considerable time prior to this, but the hemorrhage had not become continuous until lately. The uterus was freely moveable; one enlargement could be felt on anterior wall about the size of an orange, and another on posterior wall near fundus. Sound passed 10 cm.

Nov. 30*th*, 1887.—During profuse hemorrhage positive galvano-cauterisation to the endometrium was performed, 100 milliampères for fifteen minutes. During the application the patient did not complain of pain.

Dec. 7*th*.—Patient states the hemorrhagic discharge has been getting gradually less profuse. There is, however, some bleeding yet and a good deal of pain. Active pole positive, 100 mill. for fifteen minutes. Patient did not complain of pain during the seance.

Dec. 14*th*.—Patient returned to the clinic to say that there was still slight bloody discharge. Active pole positive, 100 mil., ten minutes.

Jan. 4*th*, 1888.—Patient states she did not feel well enough to return before. She now, however, feels very much better; looks well and has lost greatly the haggard and exhausted appearance she at first presented. There is still, however, a very slight bloody discharge. Uterus now measures 9 cm. in depth;

growth apparently more movable in pelvis and reduced in size. Active pole positive, 100 mil., ten minutes. No pain.

Jan. 11*th.*—Still improving and gaining strength; active pole positive, 100 mil., ten minutes.

Jan. 18*th.*—Active pole positive, 100 mil., ten minutes; no hemorrhage. During all of these applications Martin's platinum electrodes were used; No. 1 for first half of the sitting and No. 2 for the second half. The uterus now, however, appeared so much reduced that No. 1 electrode was thought sufficient.

Feb. 1*st.*—Active pole negative, 80 mill., seven minutes; no bleeding; feels very well. 8*th.*—Active pole negative, 100 mill. for twelve minutes; no bleeding. 23*rd.*—Having been now six weeks since arrest of uterine hemorrhage the positive pole was applied, 100 mill., five minutes.

March 7*th.*—Had a slight bloody discharge last week lasting eight days, and ceased three days ago. Applied active pole positive 100 mill., ten minutes. Sound now enters to the depth only of 7.5 cm. Patient feels so well she has been doing hard work for some weeks past. She has absolutely no pain to complain of.

At the beginning of the treatment in this case I had some difficulty in introducing the electrode, although I used Martin's flexible instruments. This difficulty always arises where the neoplasm encroaches upon the cavity of the uterus, notwithwithstanding that the organ is well pulled down with a volsella. After a few applications, however, the canal seemed to become quite patent and the sound easily entered.

CASE II—*Myoma Uteri.*—Aged 48; married 16 years, never been pregnant. Has always suffered from dysmenorrhœa, but it has only been during the past year she has experienced intermenstrual pain; this is chiefly in back and left side. The leucorrhœal discharge is constant and profuse. Micturation very painful. General health very bad; anæmic, thin, weak and despondent. Menstruation regular, but quantity large.

Examination.—Anterior segment of uterus enlarged by an interstitial myoma. Cervix looking backwards and downwards; posterior fornix free. In left iliac region there is a hard tumor

about the size of a cricket ball, freely movable in every direction and connected with uterus by a narrow pedicle. Uterine cavity passing anteriorly, and to the left, measures 10.25 cm.

Jan. 16*th*, 19*th*, 23*rd*, 26*th* and 30*th*.—Applied negative galvano-cauterization 100 mill., ten minutes.

Feb. 9*th*.—Returned after menstruation, which lasted eight days; quantity small; pain much less. Thinks tumor smaller and lower down in pelvis. General health much improved. Applied 110 mill. eight minutes, A.P.N.*

Feb. 11*th*.—Very much better; can move about quite freely; is very active. No pain whatever. Large sound enters quite easily. Applied 100 mill. ten minutes, A.P.N.

Feb. 20*th*, 22*nd* and 30*th*.—Applied from 120 to 150 mill. for five to ten minutes A.P.N. Still improving in general health.

March 9*th*.—Menstruation began on the 1st inst., flow lasted four days, and was fairly free in quantity; it disappeared suddenly on the fifth day and did not return. The flow was not accompanied with any pain whatever, and had had none since. *No leucorrhœal discharge.* She can walk now without any pain, and expresses herself as somewhat alarmed, thinking the disease may have gone somewhere else.

This patient has acquired a fairly healthy appearance, has made or saved blood, has become active and cheerful, and is certainly in a better condition in every way than when first consulting me. The growths have not apparently diminished after careful bimanual examinations, though the sound enters to 9 cm. instead of 10.25 cm. The negative pole as the active one was used, as there was not any excessive hemorrhage, and as the electrolitic effect seemed indicated. In this way the walls of the cervical and uterine cavity became much absorbed, allowing the largest size silver sound electrode to enter freely. This case is still under observation.

CASE III.—*Congestive Dysmenorrhœa; Galvanism.*—This patient, aged 26, married four years, no children, was one of the most aggravated cases of dysmenorrhœa I had ever seen. She was the subject of acquired anteflexion from

* Active Pole Negative.

chronic pelvic inflammation, with cicatrical shortening of the uterine sacral ligaments and general fixity of the whole pelvic floor. I had performed divulsion and posterior incision of cervix, with little benefit. She was, however, the only one of many on whom I had performed that operation who was unrelieved. During December and January she received six applications A.P.N., varying from 20 to 50 mill., lasting five minutes. She was at first very sensitive to the current, and suffered intensely during the day of the operation at the first and second sitting. This patient is now free from pain; can do housework, which she had not been able to do for years before. She is well nourished and improved in health in every way. The canal of the cervix remains large and admits the sound freely without pain.

Case IV.—*Endometritis; Galvanism.*—This was a young English-woman who had been in the London Hospital for some months, and had been treated for ulceration of the cervix. She was the subject of bilateral cervical laceration, accompanied with enormous hypertrophy and proliferation of gland tissue, producing ectropion of the torn cervical segments. To make matters worse, the lesion became infected with gonorrhœal poison, which accounted for the high inflammatory condition in which the parts were found. In this case I did as high a "Schröder" as it was possible. The result was very good, but there still remained a slight tendency to proliferation of the few glands left just below the internal os, causing discharge still to be kept up. Four applications of the A.P.P. and two of the A.P.N. destroyed the diseased glands and the discharge disappeared.

Case V.—*The following is a case of sudden recovery after electrical treatment:—*

Aged 32, unmarried; hysterical tendency; suffered intensely from dysmenorrhœa, due to pathological anteflexion and stenosis of cervical canal. She had been a constant attendant at the out-door clinic for months, and always appeared in a most pitiable condition, no matter what was being done for her. The pelvic

parts were so intensely sensitive, and the pelvic floor so rigid *apparently*, that it was difficult to make a careful and satisfactory examination without the patient going off in a dead faint and causing no end of fuss. Transferred her to Electrical Clinic.

Jan. 25th.—Could only introduce Emmet's small silver probe to which I attached the negative reophore, 25 milliampères for five minutes. Had a slight faint after coming off the table. Uterus 6.5 cm.

Feb. 8th.—Could introduce No. 1 electrode easily; 50 mill. for ten minutes, A.P.N. *12th*—70 mill. for five minutes, A.P.N. *20th*—Menstruated since last visit, duration three days, very little pain; did not require to remain in bed as usual.

Cervical canal very large and freely admits largest size silver electrode. No pelvic pain or tenderness. Feels active, well, and free from hysterical tendencies. Applied A.P.N., 50 mill., six minutes. No pain whatever. Pelvic floor now feels soft and pliant and shows not a single tender point during examination.

I think the remarkable condition in this young woman was largely due to hysteria with stenosis of the cervical canal, the latter probably bearing some causal relation to the former. The electrolytic effect at the negative pole opened up the canal by causing absorption of its walls, and the interpolar current, as well as doing this, may to some extent have influenced for good the general hysterical tendency.

CASE VI—*Aggravated Congestive Dysmenorrhœa, General Chronic Pelvic Inflammation and Endometritis.*—Aged 22, unmarried; has been under treatment at out-door clinic for some time with some benefit.

Feb. 27th.—A.P.N., 20 mill., five minutes. Suffered a good deal of pain in right side during application.

March 5th.—A.P.N., 30 mill., five minutes. Pain in right side. Feels much better since last application. *8th.*—A.P.N. 40, gradually receiving 50 mill. Pain in right side increased with increase of current.

The cervical canal has become changed in its appearance; from giving exit to a muco-purulent discharge, its external os surrounded by an erosion, it is now open, free from discharge,

and the proliferating erosion disappearing. She states that she has no pain in the side or back when not receiving the current, and that there is absolutely no discharge apparent at the external parts. She is still under observation.

CASE VII—*Case of Chronic Pelvic Parametritis especially affecting the left Broad Ligament; complete invalidism for eighteen months.*—Patient large and weighing over 200 pounds; aged 45; married twenty-seven years; eight children, no miscarriages. After birth of sixth child, suffered from an attack of septic pelvic inflammation. She has ever since complained of pain in her left side and back. During the last five or six years she has been more or less of an invalid, unable to do housework. Menstruation irregular; sometimes very profuse, prolonged and painful. Leucorrhœal discharge constant. Frequent and painful micturition.

Examination.—Uterus high up, drawn to the left side, and fixed. Left side of pelvis occupied by a firmly contracted cellulitic deposit, very tender, and displacing moveable portion of pelvic floor to that side. Cervix not lacerated, but congested, and the whole organ in a state of chronic metritis.

During the first two weeks in hospital the bipolar method of intrauterine faradization was employed to relieve pain. The high tension fine long wire coil was used. When a stronger current than 40 mm. was used a syncopal attack took place and the bobbin had to be rapidly withdrawn. After a few applications, however, this feeling passed off, and stronger currents could be taken. The pain in the side in two weeks of this treatment disappeared and galvanism resorted to.

Feb. 27th.—Had first application of galvanism, A.P.N., 50 mill., five minutes.

March 7th.—Has just finished menstruating, duration three days, normal in quantity, and entirely free from pain. Applied A.P.N. 50 mill. five minutes. *10th.*—A.P.N. 50 mill. five minutes; feels much improved and can move about in hospital without pain. *14th.*—A.P.N. 50 mill. seven minutes; states she feels a different woman in regard to health, and wishes to return home.

This patient remained in the city for two weeks after leaving hospital, during which time she was able to take long walks without pain. As regards the condition of the parts involved, it can only be said that the uterus was somewhat reduced in size; the cellulitis had undoubtedly undergone some degree of resolution; the fixity of the uterus and pelvic floor generally on the left side was only slightly apparent on steady downward traction which did not cause pain.

The foregoing are a few selected cases from a large clinic at present undergoing electrical treatment for uterine disease. I thought it better only to report those wherein some definite change had taken place for the better or otherwise. During this investigation I have observed the following few phenomena of interest in connection with the procedure:—

(1) If you allow the patient to remove her hands from compressing the dispersing electrode on the abdomen, she will probably experience a series of shocks from the breaking of the current. This occurrence will greatly alarm and may give you some trouble to induce her to continue treatment afterwards. It is the only unpleasant result I have seen from the accident,

(2) Do not have a huge pancake of clay with a small copper disc stuck in the centre of it for a dispersing electrode. Have a copper plate shaped to fit the abdomen of the size you wish your electrode to be. Fill this plate on its concave face with sculptor's clay after the latter has been well worked up so that it will form a smooth even surface. See that at the edge all round the plate the clay is at least one centimeter thick, thus preventing the copper edge from coming in contact with the skin and burning a hole therein. Now cover the whole disc with a piece of cheese-cloth and smooth it down over the face of the clay with your wet hand.

(3) Always pour a hot solution of common salt over the face of the electrode just before applying it to the abdomen; you will get the required intensity of current with much less volt power than otherwise.

(4) In placing the dispersing electrode, see that the pubic hair is brushed away with the wet hand so that it will not interfere with close contact of the clay with the skin.

(5) It is not necessary to have a special table with patent machinery elevating trestle work for the legs of the patient to rest upon. A plain examining table with the patient's buttocks drawn well to the edge, and where it is necessary to view the cervix in drawing it down a Goodell's speculum will be found to answer better than any other instrument.

(6) As you increase the current, pain is first felt by the patient in that area in which it is felt when due to over-fatigue or such like cause. In some cases of chronic parametritis I have witnessed very intense pain continue for 24 hours after the application. In such cases it is therefore necessary to begin with a current of moderate intensity, and gradually increase it at each successive sitting. I have, however, never seen anything more serious than pain result.

(7) Electricity in the treatment of neuralgic pain in women acts like a charm. In facial neuralgia, with or without severe headache in thin anæmic women, or during the advent of the menopause, I have had good results with the high tension current of the long fine wire of faradic electricity. Also the use of the same current in pelvic neuralgia, applied to the interior of the uterus by the bipolar method of Apostoli.

(8) Do not be too enthusiastic over this method of uterine therapy. If you are honest and open to accept *facts* you will meet with disappointment occasionally. The time it absorbs and the energy and perseverance it entails are its principal drawbacks. Its safe application undoubtedly requires special diagnostic skill and experience. Cases of death, it has been stated, are known and will shortly be reported.* A severe attack of pelvic cellulitis has been recorded by Keith (*British Med. Journal*, March, 10th, 1888). It has at present a middle position between physic and the knife and will surely achieve satisfactory results in well selected cases.

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* J. Knowsley Thornton, *British Medical Journal*, March 24th, 1888.

Reviews and Notices of Books.

A Practical Treatise on Materia Medica and Therapeutics.—By ROBERTS BARTHOLOW, M.A., M.D., LL.D., Professor of Materia Medica, General Therapeutics and Hygiene in the Jefferson Medical College, Philadelphia. Sixth edition, revised and enlarged. New York: D. Appleton & Co. 1887.

Very considerable and important additions have been added to the sixth edition of this important work on pharmacology and therapeutics. We have on several occasions favorably reviewed the work. At present it is only necessary to say that the energetic author has fully kept up to the times.

A Manual of Medical Jurisprudence. With special reference to Diseases and Injuries of the Nervous System.—By ALLAN MCLANE HAMILTON, M.D. With illustrations. New York: E. B. Treat, 277 Broadway. 1887.

This work will be found to be of great value for reference in many cases of insanity, especially when questions of a medico-legal nature arise. The subject is dealt with very fully and pointedly. A noticeable feature is a short account of many of the more important cases of true and alleged insanity that have occupied the attention of both medical and legal men. A very useful chapter is devoted to the consideration of hysteroid conditions and feigned disease. Epilepsy, Alcoholism and suicide are treated of in separate chapters. We have finally the medico-legal aspects of cranial and spinal injuries.

A Clinical Atlas of Venereal and Skin Diseases.—By ROBERT W. TAYLOR, A.M., M.D. In eight parts. Philadelphia: Lea Brothers & Co.

The prospectus of this work has been sent to us accompanied by some sample copies of the plates. It is to be published in eight imperial folio parts, by subscription only, illustrated by 58 full-page chromo-lithographic plates, selected from the works

of Helva, Hutchinson, Ricord, Fournier, Squire, and many others. A number of the plates, also, will be from original paintings. The specimens of the plates sent indicate a high class of work. No better man could have been selected for the preparation of such a publication than Prof. Taylor, who has been long known in connection with venereal and skin diseases as one in the front rank. The first three parts will be devoted to venereal diseases and syphilis, and the rest to the various affections of the skin. Besides being illustrated by chromo-lithographs, woodcuts are interspersed throughout the text. We welcome this work heartily and feel sure it will prove of the greatest use to teachers as well as practitioners.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, Dec. 9th, 1887 (*continued*).

Removal of Eight Calculi.—Dr. Roddick exhibited eight large calculi which he had removed from an old gentleman last summer by the lateral operation. The stones weighed 2½ ozs. At the time of the operation the patient was in very bad health and there was much pus in the urine. He died some two days after the operation of uræmia. Although no post-mortem was allowed, there is little doubt that the kidneys were very seriously affected. In this case the supra-pubic operation was contemplated, but the lateral was preferred on account of the small capacity of the bladder, which would only hold 2½ oz. of water.

Stated Meeting, December 23rd, 1887.

James Perrigo, M.D., President, in the Chair.

PATHOLOGICAL SPECIMENS.

Tuberculous Knee-Joint.—Dr. Bell exhibited a leg recently amputated at the junction of the middle and upper thirds, for tuberculosis of the knee-joint. A longitudinal section was made to show the condition of the joint. Dr. B. gave the following history:—

P. F., aged 30, a pale, emaciated man, was admitted to hospital on the 19th of December with the following history: He began to suffer from a painful and swollen knee twelve years ago, which is vaguely attributed to injury. The knee has grown steadily worse up to the present, incapacitating him for work for the greater part of the time. For about four years he has been confined to his bed with it. Two years ago he was treated by a quack, who blistered the leg in large patches above and below the knee and then applied salt pork to the abraded surfaces. These sores never healed, and an attack of erysipelas, which occurred a few months ago, caused extensive burrowing of pus both in the thigh and calf. On admission, the patient's general condition and the condition of the soft parts in the leg and lower third of the thigh were very unpromising indeed. On this account the idea of excising the knee-joint was abandoned and the thigh amputated at the junction of the upper and middle thirds (it being impossible to secure sufficient healthy tissue for flaps at a lower point). The progress of the patient was uninterrupted after amputation, and he was discharged at the end of three weeks with a small sinus still open at the inner angle of the flap. The knee-joint, when sawn through from above downwards, although showing extensive and widely distributed disease, was yet in a condition suitable for resection had the patient's general health been better and the soft parts in the leg and thigh less extensively destroyed.

DR. RODDICK thought that as far as the condition of the joint itself was concerned it was a typical case for excision, but the condition of the soft parts necessitated amputation.

DR. SHEPHERD saw the case three months before; did not think there was pus in the joint at that time, and was struck at the time of the operation with the amount of suppuration in the soft parts about the joint. He thought the amputation might with safety have been made a little lower.

Tubing in Diphtheria.—DR. JOHNSTON showed the respiratory organs in a case of diphtheria which had proved fatal two days after the performance of intubation, the tube being shown *in situ*. The lungs were for the most part in a state of acute emphysema,

but showed a few small patches of collapse with commencing pneumonia. The tube was seen *in situ*, and was not obstructed. The membrane had extended into the first bronchi. A slight diphtheritic exudation was seen over the tonsils. The tube had produced no necrosis of the parts with which it lay in contact.

DR. MAJOR stated that the patient, a girl aged 3 years, had been temporarily relieved by the use of the tube, but had died two days later.

DR. GEO. ROSS had observed shortly before death that physical signs of severe bronchitis had existed.

DR. MAJOR, in answer to Dr. Roddick, said that the longest time he had left a tube in the larynx was ten days; there was only slight erosion of one ventricular band, but no ulceration. Tubes are very liable to be coughed up.

Angioma of the Liver.—DR. JOHNSTON also exhibited a microscopic section from a cavernous angioma he had found in an amyloid liver. The walls of the cavernous spaces were not affected by the amyloid change. The case was of interest in connection with the question as to whether the angioma arose in connection with the hepatic artery or the portal vein. This point had been left obsure, as attempts to inject angiomata by these vessels had led to contradictory results. As amyloid affects primarily the branches of the hepatic artery, this, the angioma being practically unaffected, would in this case be solely of portal origin. The minute spots of amyloid change in it being accounted for by the fact that the hepatic artery nourishes all the structures of the liver.

Physiological and Pathological Reversion.—DR. T. W. MILLS read a paper on this subject. (*See page* 513.)

DR. SHEPHERD referred to the extension of the principles of evolution to all branches of science. He has long been a supporter of evolution from a morphological point of view, and he believed the physiological aspect as developed by Dr. Mills affords quite as broad a field for investigation. Just as the development of the embryo is the compressed history of the development of the individual, so Dr. Mills' paper shows that death tells us the tale of development backwards.

DR STEWART, referring to Dr. Mills' remarks on the dissolution of the circulation, said that in old age a man dies along the track of the circulation. Some one says that death from old age was the evolution of dissolution.

Laboratory Notes on Papoid Digestion.—DR. R. F. RUTTAN read a short paper on the above subject, which will be found in the February number of this JOURNAL.

DR. GEO. ROSS said he had been using the drug for some time in the hospital with satisfactory results in diphtheria. One of the marked effects of the application of the solution was the entire suppression of the characteristic fœtor of the disease. He used a 5 per cent. solution, and the atmosphere of the ward was kept quite fresh and sweet. It certainly seems to dissolve the membrane.

DR. STEWART suggested its use as an escharotic for the removal of tuberculous infiltrations.

DR. GODFREY said he was now using a 5 per cent. solution to destroy a hard scirrhus cancer of the heart, and so far was thoroughly satisfied with its action.

Abdominal section for Sarcoma.—DR. WM. GARDNER exhibited specimens from a case of sarcoma of the uterus and ovaries on which he had operated. Rapid recurrence took place, with death on the seventh week. Dr. Gardner gave the following account of the case and the operation :

The patient was sent in by Dr. T. L. Brown of Melbourne, who was consulted only a few days previously for some bladder symptoms, when he recognized the rapidly-growing pelvic and abdominal tumor. She was a fair-haired, light complexioned, vivacious, and very precocious child, always delicate. Menstruation had not appeared, and the only evidences of approaching puberty was scanty pubic hair. The tumor evidently sprung from the pelvis, but had risen to the abdomen, was nodular, and scarcely moveable. Though recognizing its probably malignant nature, operation was decided on. The growth was a friable mass, with a few cysts adherent to omentum, intestines, posterior surface of bladder, and everything else in the pelvis. Neither uterus nor ovaries were distinguishable. The cavity was washed

out and a drainage-tube inserted. Recovery was scarcely clouded by any symptom of importance. Appetite was regained to a considerable extent, but it was not long before a return of the growth was perceptible, and it went on with mushroom-like rapidity till the abdomen was greatly distended, and she died from exhaustion. The tumor was examined by Dr. Johnston and pronounced by him to be sarcoma.

Stated Meeting, January 6th, 1888.

T. G. RODDICK, M.D., IN THE CHAIR.

PATHOLOGICAL SPECIMENS.

Dislocation of the Sixth Cervical Vertebra.—DR. HUTCHISON exhibited the dislocated cervical vertebra and gave the following history:—

H. C., aged 37 years, a brakeman on G.T.R., while walking on top of a freight car, which was running at the rate of three miles an hour, fell between two cars, the rear one throwing him clear off the rails; he fell on his shoulders. The accident took place at 5 P.M., Oct. 29th, 1887. He was removed to the van and brought to Montreal, a distance of forty miles. During the journey he suffered a good deal of pain in both arms; did not lose consciousness. I visited him at 8.30 o'clock the same evening and found him conscious, paraplegic, with partial paralysis of arms. The arms were thrown at an angle to the body, causing great pain on any attempt being made to restore them to sides. There was preternatural mobility and crepitus in region of fifth cervical vertebra. The vertebral line was thrown forward above the seat of injury; pupils, pulse, temperature and respiration normal. Assisted by Dr. Kinloch, extension was practiced without an anæsthetic, which relieved the pain in arms and left patient in a comfortable position.

Oct. 30th, 10 *a.m.*—Patient slept several hours during night, suffered no pain. Noticed slight contraction of pupils and slight stertorous breathing. Urine drawn off with catheter. 4 *p.m.*—Stertor increasing; temperature normal; partially comatose. 7 *p.m.*—Death ensued twenty-six hours after accident; during

twenty-two and a half hours of that time the patient was perfectly conscious. From the faint crepitus obtained the case was thought to be one of fracture.

DR. RODDICK referred to a similar case of cervical dislocation that was successfully treated by extension by the late Dr. G. W. Campbell. Dr. R. had practiced extension in several cases, but unsuccessfully.

Anencephalic Monster.—DR. GURD exhibited an anencephalic monster showing a membranous sac filled with fluid corresponding to the cranium. This fœtus appeared to be about at the sixth month, and was dead at birth. The mother, a somewhat delicate patient, had suffered a severe fright early in gestation.

DR. MILLS said it illustrated his paper read at the previous meeting. The development of this fœtus, so far as the brain is concerned, seems to have been arrested in a stage of its existence corresponding somewhat to that of the lowest vertebrates.

Drs. Wyatt Johnston, J. C. Cameron and Shepherd were appointed to examine the fœtus and to report at a subsequent meeting.

A Case of Nævus.—DR. RODDICK exhibited a foot removed by Syme's amputation. The patient, a woman, 30 years of age, had a nævus on the dorsum of the foot, which grew very slowly until she married some ten years ago, when with each pregnancy it increased considerably until it had assumed enormous dimensions. The tissues of the foot, including all the toes, had become thickened, resembling elephantiasis. Especially since the birth of the last child, three months ago, the increase in growth was very marked. Lately quite an extensive slough, amounting almost to gangrene, had formed on two of the affected toes. This caused troublesome and often alarming hemorrhage. Owing to the thickened elephantine condition of the tissues of the foot amputation was deemed the only feasible procedure. The posterior tibial artery and nerve were found enlarged to three or four times their normal size. The glands in the groin were also very much enlarged at the time of operation.

Stated Meeting, January 20th, 1888.

T. G. RODDICK, M.D., IN THE CHAIR.

PATHOLOGICAL SPECIMENS.

DR. G. ARMSTRONG exhibited the brains from two cases of cerebral disease.

(1) *A Case of Apoplexy.*—The first brain shown was removed from a man seven hours after death, occurring at the age of 56 years from apoplexy. The patient was an Englishman; enjoyed robust health, but since coming to Canada has been stronger than he was at home. For a fortnight before death he had been at home complaining of weakness, anorexia, a little frontal headache, and rheumatic pains about arms, legs and back. No elevation of temperature or acceleration of pulse; tongue coated; bowels moved by eating a little fruit. On the morning of the day of his death he awoke feeling particularly bright and cheerful. Expressed himself as feeling stronger, and thought he would be able to return to office in a few days. About 8 A.M. he went to the store and suddenly called for help, sank on to the floor unconscious, and in one hour was dead, never having regained consciousness. Dr. Johnston kindly performed the autopsy for me. We found, on removing skull-cap, a large clot in right frontal region, just beneath the arachnoid. On removing the brain the ventricles were found distended with blood, death having resulted from the blood passing along the iter into the fourth ventricle, and thus producing pressure sufficient to paralyse the centres of organic life. On closer examination the blood was found to come from a rupture of a vessel of the right corpus striatum. Dr. Johnston afterwards found that the vessels were fattily degenerated. Heart and kidneys were examined and found normal.

(2) *Cerebral Syphilis.*—The second brain shown was removed from a man who died at the age of 62. Dr. Armstrong gave the following account of the case: The patient claims to have enjoyed good health up to June, 1885. At this time, while walking to his office one morning, he fell down, but says he retained consciousness all the time. Some men passing helped

him up, and he went on to the office, but only remained a short time and then walked home again. I saw him soon afterwards, when I found him quite rational. There was present no paralysis of motion or sensation. He told me that for some time his appetite had been poor, and he did not enjoy his pipe as much as usual. For the past two years he has suffered from frequent micturition, and has an enlarged prostate. After he had micturated I drew off 10 ounces of slightly turbid urine with the catheter. Urine contained a considerable quantity of pus; reaction acid. No headache or dimness of vision. On the 14th November, 1885, when dressing, he fell suddenly to the floor, but did not lose consciousness. When his wife picked him up she thought he had no power in his limbs; but when I saw him a few hours later I could detect no paralysis of motion or sensation, but he was partially aphasic. He could answer questions correctly and could speak in short sentences, but stopped in the middle of a long sentence. Although previously a good penman, his present scroll was illegible. A peculiar subjective symptom at this time was his hearing pleasant music, especially in the left side of his head. He rather enjoyed listening to it. All the parts were carried correctly along together. The treatment at this time was Hg. and large doses of Pot. Iod. His condition improved somewhat, but aphasia never entirely disappeared. About six weeks ago he became suddenly hemiplegic on the right side, death finally resulting from exhaustion and septic poisoning from large gangrenous bedsores. Dr. Johnston kindly performed the autopsy for me. We found a large gumma occupying the third left frontal convolution, and a patch of softening extending almost quite across the left internal capsule, due probably, Dr. Johnston thinks, to an embolus. It is very satisfactory to find such well marked lesions, which account so well for the symptoms from which the man died.

Discussion.—Dr. Buller thought that the tumor must have produced doubled optic neuritis. Larger doses of potassium iodide, 40 to 60 grains three times a day, might have produced very beneficial results in this case. Referring to the subjective symptoms of the patient, Dr. B. said these were often caused

by preturbation of the nerve centres, and were the usual early symptoms of insanity.

DR. TRENHOLME strongly advocated the administration of large doses of iodide of potassium in cerebral syphilis.

DR. RODDICK could not understand how the wife could have been inoculated by the husband, as he had tertiary syphilis.

DR. ARMSTRONG, in reply, stated that the wife had all the symptoms of secondary syphilis about the time of the husband's attack. In answer to a question from Dr. Stewart, he said that the patient at no time exhibited facial paralysis or any other affection of the motor system.

Membranous Croup.—DR. JOHNSTON exhibited for Dr. R. J. B. Howard a specimen which he thought an example of membranous croup as distinguished from diphtheria. The case was a sporadic one, and the disease primary in the larynx. No membrane had even been seen in the fauces. Intubation had been performed by Dr. Major. The child had died suddenly two days later. At the autopsy the tube was found plugged with mucus. The larynx and trachea showed a uniform sheathing of membrane which formed a cast of the trachea, but was nowhere adherent. The same condition was seen on the posterior surface of the epiglottis. The only spot where the membrane was adherent was just at the rima, on each side, over a small area a quarter of an inch square. The glands were not enlarged. On detaching the membrane the mucosa looked healthy; on microscopic examination it was found to show signs of proliferation, but was nowhere necrotic, except where membrane was adherent. In about 15 cases of diphtheria he had dissected in the last 3½ years, this was the only one which had appeared to bear out Virchow's distinction that in croup a necrosis of the mucosa was not the initial lesion.

Discussion.—In reply to DR. STEWART, DR. JOHNSTON said the cause of death was suffocation, from the child having coughed up the tube. The constitutional symptoms were not marked.

DR. J. A. MACDONALD believed that tracheotomy would have saved the patient's life.

DR. SHEPHERD agreed with Dr. MacDonald that this was a

case where tracheotomy was especially indicated. He could not see, clinically, any great difference between membranous croup and diphtheria. He did not think diphtheria was an extremely infectious disease. When whole families were affected they were usually exposed to the same influences, such as unhealthy surroundings, bad drains, etc. He did not believe diphtheria was a modern disease. The so-called putrid sore throat of former days was probably diphtheria.

DR. ARMSTRONG thought that there was a good clinical difference between these two diseases. True croup is not infectious, and there is no glandular enlargement or pharyngeal trouble accompanying the laryngeal affection.

DR. TRENHOLME had seen many cases of true diphtheria where the membrane was confined to the larynx.

DR. RODDICK said he was convinced that croup was one thing and diphtheria quite another, He remembered his first case of diphtheria, and it was widely different from any form of croup that preceded it. Undoubtedly the two diseases may occur together, as with tonsillitis and diphtheria. The line of distinction between the latter two diseases was much harder to draw.

DR. BULLER believed the diseases were distinct. There is certainly a great difference between croupous and diphtheritic conjunctivitis. The plastic exudation of the former affection is accompanied by no severe constitutional symptoms, and the inflammation is confined to the surface. The diphtheritic is well defined and virulent; the whole lid becomes tense and brauny; the disease is destructive and deep-seated. The two processes are quite distinct in the conjunctiva, and it is difficult to see why they should not be so in other membranes.

DR. BLACKADER said that the differences between pharyngeal and laryngeal diphtheria was due to differences in the nature of the submucous tissues; in the former the deeper tissues were not so closely attached. There was no difference in the microscopic appearance of croupous and diphtheritic membrane, but he believed it was, clinically, always safest to treat cases of membranous croup as diphtheria.

Trichorexis Nodosa.—DR. SHEPHERD presented specimens of

hair affected with the above disease taken from the moustache and eyebrows of a reddish-haired man aged 35. The nodes on the hair were pigmented. The disease was first noticed two years ago, and that time the left side of the moustache only was affected. He found he could not grow hair on this side of his moustache beyond a certain length, so he shaved, and for the next four months the disease did not appear; but as the hair grew larger, it reappeared and spread to the right side of moustache as well. During the last two months the same disease had affected his eyebrows. Many of the hairs have several nodules and many were split at the ends. The patient is very certain the affection is not due to pulling at his moustache. Dr. Shepherd remarked that this was a very rare disease, and was characterised by having nodular swellings along the shaft of the hair, and the hair breaks easily, usually through one of the nodules. When broken the hair has a brush-like end. Trichorexis nodosa is not a parasitic disease. It commonly affects the beard. The first symptoms noticed by patient are nodosities of the shaft of the hair and great brittleness, the part of fracture being at one of the nodules. Each hair has four or five of these nodes, which in people with reddish hair are pigmented. Nothing is known of the cause. Some think it due to mechanical causes. By some the lesion is regarded as due to the gradual drying of the cortical substance, whilst others look upon it as an atrophy of the medulla occurring at different points, especially at the points where the nodes are. The hair roots are unchanged or slightly atrophied. Treatment is of no avail.

Selections.

Unusual Symptoms following the Local Application of Cocaine —By Dr. H. C. McSherry. —The physiological and therapeutical actions of cocaine have been so fully considered that one would hesitate to say more on those subjects, and would feel an apology almost necessary for adding to the happy experiences recorded by a very large number of writers. Of these matters I will have nothing to say beyond giving my favorable testimony, based on the use of this valuable alkaloid in hundreds of cases of throat and nose troubles. But since it is admitted that the drug is very potent for good, and in view of its extensive, almost indiscriminate, use, I will take the risk of writing on a hackneyed subject, hoping that the *audi alteram partem* maxim is always appropriate when one side has been fully heard from and but little said on the other.

In a small number of cases I have seen dangerous symptoms following the local use of cocaine, and in looking over the journals I find that some others have had like similar experiences. Of these cases I will speak presently, for they have made me more chary in using the preparation than I was formerly. Poisoning from the internal administration of the drug is generally admitted, but that a few drops of a very weak solution applied to the mucous membrane could be in the least dangerous, seems so improbable that not many except those who have seen instances of such apparent effects believe it. My own cases and those of others have convinced me, however, that:

1st. Extremely small quantities of cocaine solution locally applied to the mucous membranes will occasionally produce toxic symptoms.

2nd. The symptoms presented under such conditions are variable, sometimes showing nervous excitation and at others nervous depression and marked vascular disturbances. These variations of the influence not being dependent apparently upon the quantity used.

3rd. In selecting the antidotes, both the usual physiological actions of the drug and the symptoms exhibited by the individual should be considered.

The first case of which I will speak I saw with a physician who called on me in a very unpleasant emergency. The patient was a strong-looking man somewhere about 40 years of age, who was being treated for nasal polypi. On this occasion, to reduce the sensitiveness of the membrane prior to using the instruments, pledgets of cotton saturated with a five per cent. solution of cocaine were introduced into the nose. The physician told me that shortly after he introduced the cocaine the patient complained of a constriction in the throat, became very pale, and commenced to gasp for breath. Although he used various means for the relief of the condition, instead of improving it became worse, and the difficulty of respiration increasing, he called on me. It was about ten minutes after the use of the cocaine that I saw the man. Then there was stridulous breathing, a pallid, anxious countenance, twitching of the muscles of the body, and a frequent clutching at the throat. In fact there were all the symptoms of great nervous excitement and of alarming laryngeal spasm. Recognizing that some nervous sedative and antispasmodic was indicated we determined to try nitrite of amyl, which acted so satisfactorily, that, after the inhalation of three pearls of five drops each, the spasm had so relaxed that the breathing again became easy, and the general nervous excitement quieted down.

The symptoms in the second case were not so alarming, but were unusual. This was a young lady about 20 years of age. I sprayed into her larynx a small quantity of a four cent. solution of cocaine before applying galvano-cautery to a small laryngeal excrescence, which was on the free edge of the anterior portion of the left vocal cord. Immediately after using the spray her face and lips became pallid and I feared she would faint. She seemed almost to have lost control of the motion of the tongue, the speech became very indistinct. She complained of feeling a large lump in her throat and told me that her lips were perfectly numb. On testing this I found her statement correct, although I am sure the spray had not touched them. When she left my office she was still speaking with a "thick" tongue; and afterwards she said that this continued all that day (about ten

hours) and that for twenty-four hours she had violent headache and sick stomach.

At other times I used various other sprays and both before and after this experience the cautery was applied without cocaine, and no disagreeable symptoms ensued. It will be well to state, also, that neither this case nor the one following knew what preparation was being employed.

The third case is that of a lady who had been under my care a considerable time for naso-pharyngitis and relaxed throat. I frequently made applications to her larynx, pharynx, posterior and anterior nares, without her showing or expressing any extraordinary discomfort. While under treatment an acute coryza developed, which produced some puffiness of the nasal mucous membrane. For this I determined to make a local application of cocaine, as it frequently has a very comforting effect. So a flexible rubber probe having on the end a pledget of cotton saturated with a four per cent. cocaine solution was passed through the nose. Shortly after this was passed through both nostrils, her face and lips became very pale ; she said she was going to faint. Her pulse became rapid and small, and as she was falling from the chair I caught her and laid her down. The syncope was extreme, pulse gone, respiration not perceptible, and her face had the pallor of death. The clothes were opened, ice water was thrown in the fate, the hands and body rubbed, smelling salts held under the nose, but notwithstanding this she remained an inert body for at least ten minutes, when to my great relief she gave a gasp for breath. It seemed to me that her condition was alarming, and I believe that the friend who was with her thought I had pushed some instrument into the brain and killed her. The patient vomited repeatedly for an hour afterwards, and for two days was confined to the house with a headache and sick stomach.

These three cases represented my bad experience with cocaine, and in them so little of the drug could have been absorbed, that had such effects been observed but once, or without corroborative experiences, I might have doubted the relation between the use of the drug and the symptoms presented. But I find others have met with such cases.

Ziem of Dantzig recorded seventeen cases in which decided toxic effects occurred simply through the instillation of the drug within the eye, and in which the amount of cocaine reaching the general system must have been very small indeed. (*Medical Nvws*, April 9th, '87.)

Mayerhausen narrated a case of which there is an abstract in the October issue of the *Centralblatt für Gesammte Theropie*, in which less than a one per cent.—so diluted was the solution by a copious secretion of tears—caused, when instilled into the conjunctiva, headache, nausea, constriction of the throat, weakness of the tongue, impaired speech and other severe symptoms, lasting 24 hours. (*Amer. Jour. Med. Sciences*, Jan. 1886.)

Schilling records a case of severe cocaine poisoning in which, after the intragingivæ injection of two drops of a 20 per cent. solution of this drug, motion and sensation entirely disappeared. Complete amaurosis and deafness were present. The patient complained of coldness and darkness. (*Med. News*, March 6,'86.)

Mattison, in the *Med. News* of April 6, '87, mentions a paper of his own which referred to forty authorities, English, French, German, Austrian, Russian and American, and cited more than fifty cases of dangerous conditions arising from the use of this drug. In four cases it caused death. The amount of the drug used varied from a fraction of a grain to 24 grains, and was applied to the eye, ear, nose, throat, larynx, teeth, gums, stomach, bowel, bladder, uterus, urethra and under the skin. This writer noted that the following symptoms were given by these various authorities: Nausea, vomiting, headache, lividity, deafness, blindness, loss of taste and smell, profuse sweats, cold perspiration, gastric cramps; frequent, feeble, irregular, intermittent, uncountable pulse; shallow, gasping, irregular, difficult, convulsive, suspended breathing (artificial respiration required in some cases); speech, gait and swallowing greatly impaired; rigid muscles, palpitation, sense of suffocation and great constriction about the chest; loss of motion and sensation in arms and legs; intense restlessness, extreme prostration, vertigo, faintness, feeling of impending death, unconsoiousness, convulsions, paralyses, hallucinations, mania, delusions, delirium—death.

In the *British Medical Journal*, Feb. 4, 1888, Whistler of London notes that after a four per cent. solution is sprayed into the nose the pulse rate increases (in one case from 86 to 110 in five minutes), and usually there is great exhilaration of spirits. He also relates two cases in which, after the application to the nose, there was vertigo, nausea and faintness. One of these was a man and the other a woman. In the same journal of Feb. 18th, Dr. Fortesque Fox relates a case where after the use of a two per cent. spray there was coldness and numbness of the tongue, weakness of the lower limbs and staggering, mental distress and great depression from the very first. The husband of the lady, who was stout and healthy, except for "irritability of the windpipe," stated that she was more or less unconscious and unable to articulate for five hours.

Dujardin-Beaumetz recommends in the *Journal de Medicine* that the circulation of patients who are anæmic, or the subjects of cardiac or aortic disorders and liable to syncope, should be carefully watched (*Med. News*, Sept. 3, 1887). He refers here particularly to the internal administration, but it will also apply to the local use of the drug.

In regard to the treatment there is but little to say beyond the statement that it seems best to meet the peculiar symptoms exhibited. Sometimes one remedy will act well, and again some other will do equally as well. In the first case that I spoke of, where nitrite of amyl acted so happily, there was, the physician tells me, a recurrence of the symptoms, which were controlled by giving the man large doses of alcohol.

Among the most prominently mentioned antidotes for cocainism are nitrite of amyl, chloroform, ether, ammonia, digitalis, alcohol and nux vomica, and among the useful remedial measures are warm drinks and friction to the body.

In this paper I have treated particularly of the effects of cocaine applied to the mucous membrane of the nose and throat, and I have referred to but few journals, for there are recorded a sufficient number of cases to give substance to the belief, at which I had arrived from observation in my own practice, that once in a while we are liable to find persons whose idiosyncrasy

makes them intolerant of even an extremely small amount of this anæsthetic.—*Maryland Med. Journal.*

Salt in Milk for Children.—Dr. Jacobi says that the physiological effect of chloride of sodium is very important, no matter whether it is directly introduced through the mother's milk, or vegetable diet. Both of the latter contain more potassium than sodium, and neither ought ever to be given, to the well or sick, without the addition of table salt. A portion of that which is introduced may be absorbed in solution; another part is, however, broken up into another sodium salt and hydrochloric acid. Thus it serves directly as an excitant to the secretion of the glands and facilitates digestion. Therefore during diseases in which the secretion of gastric juice is interfered with, or in the beginning of convalescence, when both the secreting faculties and the muscular power of the stomach are wanting, and the necessity of resorting to nitrogenous food is apparent, an ample supply of salt ought to be furnished. The excess of acid which may get into the intestinal canal unites with the sodium of the bile in the duodenum, and assists in producing a second combination of chloride of sodium, which again is dissolved in the intestines and absorbed. Its action in the circulation is well understood; it enhances the vital processes, mainly by accelerating tissue-changes through the elimination of more urea and carbonic acid. A very important fact is also this: that the addition of chloride of sodium prevents the solid coagulation of milk by either rennet or gastric-juice. The cow's milk ought never to be given without table salt, and the latter ought to be added to woman's milk when it behaves like cow's milk in regard to solid curdling and consequent indigestibility. Habitul constipation of children is also influenced beneficially, for two reasons: not only is the food made more digestible, but the secretions of the alimentary canal, both serous and glandular, are made more effective by its presence.—*Archives of Pediatrics*, January, 1888.

CANADA

Medical and Surgical Journal.

MONTREAL, APRIL, 1888.

GUAIACOL AND CREOSOTE IN PHTHISIS.

The latest vaunted remedy in pulmonary consumption is guaiacol, a constitutent of creosote. It is highly recommended by Fränkel of Berlin. It is asserted by Fränkel that the good effects are to be attributed to the influence of the guaiacol on digestion and not to any alleged antimicrobic action. Granting both actions, it is difficult to understand the alleged striking beneficial results obtained. Guaiacol is no doubt an antiseptic, but beyond this it can have no beneficial action on digestion, and after all, what permanent good can we hope from an antiseptic brought into the stomach. Decomposition for the time being may be prevented, but that is all. How little, after all, can this influence those deep nutritional changes which play such an important part in the origination and progress of pulmonary consumption? The anti-bacillary treatment of consumption has proved utterly untrustworthy. If we are ever to gain a mastery over this disease it will be through a defensive treatment—a treatment where the bacillus tuberculosis is left alone and attention directed to improving the general nutrition.

MESMERISM.

The citizens of Montreal appear to be annually favored with the visits of a "Professor" who entertains them with the antics of persons in the mesmeric state. It is high time these injurious and disgraceful exhibitions should be prohibited by law. In France, Italy and Belgium it is against the law to have such exhibitions. Why should not Canada have a similar law in

force? Unfortunately, a number of our daily papers aid these mesmeric exhibitions by publishing reports of them and advertising them. Even papers from which we expect better things do this. It may be from ignorance, but a high class journalist should not be ignorant.

It has been incontestably proved that the induction of hypnotism is injurious—that it not only induces a passing, but also a permanent, injury. As a therapeutical agent it may be of some value, but then it should never be employed even with this end in view except under skilled direction.

NOTES AND COMMENTS.

A case which I saw a few days ago illustrates the value of a careful examination of the peripheral vessels in diseases of the heart and aorta. A man aged 42, well-built, a glass manufacturer, had been troubled for three months with shortness of breath on exertion and feelings of distress about the heart. He had lived carefully, but had used tobacco to excess. Had not had syphilis. Was temperate in his habits. He had frequently lifted very heavy weights in helping the men in the factory, but there was no definite history of strain. The patient was a bright, healthy-looking man. Pulse 88, collapsing. Radials, brachials and carotids pulsated visibly. Apex beat in fifth space below and just outside nipple line. No thrill. Aorta not palpable in supra-sternal notch. Vertical and transverse dullness increased. Percussion clear upon, and on either side of, manubrium sterni. At apex there was a loud, rough, systolic murmur heard as far as anterior axillary line, but the maximum intensity was over the body of the heart. At the aortic cartilage and on manubrium there was also a loud systolic bruit; the second sound was well heard, not specially accentuated, and down the sternum I could just detect a soft diastolic murmur. In the carotids these murmurs were very clearly to be heard. Exercise did not materially modify the condition. I thought that he probably had sclerosis of the aortic valves, with dilatation and hypertrophy of the left ventricle, mitral insufficiency, and attributed the dyspnœa to failing compensation. I usually examine the

abdominal aorta and femorals in aortic insufficiency, and Dr. Wise called my attention to the fact that he had not been able to obtain any pulsation in the vessels of the lower extremities. The most careful palpation failed to reveal any pulse in iliac, femoral or popliteal vessels, nor could I feel distinctly the abdominal aorta. This made me return to the thoracic aorta, but anteriorly I could find no evidence of involvement—no dullness on manubrium, no pulsation in sternal notch, and no special accentuation of second sound. Posteriorly, however, a very different state of things was evident. The left interscapular space was more prominent than the right, and at the spine of the scapula pulsation was visible. Dullness in an area 3 by 2 inches; no thrill; impulse heaving. Auscultation gave a loud systolic murmur of maximum intensity over the pulsating region, but also heard up and down the spine. Undoubtedly we had here an aneurism projecting from the upper part of the thoracic aorta, or more probably just at the termination of the arch, and it must be of large size to appear externally in a region so thickly overlaid with muscles. The sac is of sufficient extent to absorb the entire expansile force transmitted from the left ventricle, so that the stream below it is no longer intermittent but continuous; hence the absence of pulse in the femoral and popliteal arteries.

Dr. Winckel, the well-known Professor of Obstetrics at Munich, has given an account of his American trip in three recent numbers of the *Münchener Medicinische Wochenschrift*. The first number is devoted to Montreal—" mit ihren zahlreichen prachtvollen villen, ihren grossartigen Hotels und ihren unzähligen kirchen." It is remarkable with what thoroughness he seems to have mastered the details of the plan of medical education at McGill University, which he describes at length, commending particularly the method of weekly oral, and the occasional written, examinations, the prolonged course of hospital study, the compulsory six months dispensing, and the practical obstetric teaching. He notes that in the duration of the course of study and the general requirements, McGill comes close to the best German universities, while in certain particulars—prolonged hospital

practice, dispensing and compulsory attendance upon a certain number of cases of labor—the arrangements are much better. He comments upon the large amount of acute disease in the General Hospital, and is astonished at the liberality with which the citizens subscribe money for its support, but—and this naturally strikes a stranger in Montreal—he compares the enormous and expensive churches, the superb buildings, public and private, with the meagre and insufficient accommodation for the sick. The Board of Managers and the medical staff of the Western Hospital should look to the arrangements of the maternity department before another such keen-eyed visitor enters the institution.

By the death of Ernst Wagner Germany has lost one of her best known physicians and the University of Leipzic one of its most distinguished professors. With the exception of Traube, no teacher to whom I have listened impressed me so favorably. He possessed a profound and accurate knowledge of disease, acquired by long years of study in the wards and post-mortem room, and he had the gift of imparting knowledge in a clear and logical manner. He died of nephritis, at the comparatively early age of fifty-nine.

WILLIAM OSLER.

Medical Items.

—Dr. Bayley Balfour, Professor of Botany in the University of Oxford, succeeds Prof. Dickson as Professor of Botany in the University of Edinburgh.

—A tablet erected by the Alumni Association of the Bellevue Hospital Medical College in memory of the late Prof. Austin Flint, was unveiled at the Carnegie Laboratory on the 10th ult.

—The Congress of American Physicians, Surgeons and Specialists will be held in Washington on September 18th, 19th and 20th. Discussion will take place on the following subjects:—1. "Intestinal Obstruction in its Medical and Surgical Relations." 2. "Cerebral Localization in its Practical Relations."

—Professors Erb of Heidelberg and Liebermeister of Tübingen are mentioned as candidates for the directorship of the

Leipzig Medical Klinik, vacant by the death of Prof. Wagner. Erb is especially known from his contributions to Neurology, and Leibermeister to Fever and its Treatment.

—Cremation in England, according to the returns of the Cremation Society, appears to be gaining in favor, as during the present year they have cremated five bodies at their working crematorium. In the case of a child eight months old, the ashes weighed only eight ounces. Up to the present time thirty-five cremations have occurred at the Society's crematorium.

—Mr. G. J. Romanes has been elected Fullerian Professor of Physiology at the Royal Institution, London. He intends to devote the three years of his professorship to one continuous course of lectures on "Before and After Darwin." This year's course—"Before Darwin"—will give an historical survey of the progress of scientific thought and discovery in biology from the earliest times till the publication of "The Origin of Species." Next year's course will be on "The Evidences of Organic Evolution," and the third year's course on "The Factors of Organic Evolution."

—The matter for Fairchild Bros. & Foster's advertisement in this issue is taken from the original remarks of Dr. William Murrell in a lecture delivered at Westminster Hospital, London. This testimony is from a high source, and coming, as it does, so entirely independent and unsolicited, speaks well for the superiority of Messrs. Fairchild Bros. & Foster's "Pepsin."

—A. M. Sittler, M.D., Bowmanstown, Carbon Co., Pa., says: Have used Tongaline extensively during an epidemic of dengue or break-bone fever, where I had an opportunity to test it very thoroughly, and I secured much more successful results from it than from the ordinary treatment, consisting of pot. iod., vini colchici, acid salicyl, quin. sulph., etc. In every instance tongaline fully sustained the high character with which it is presented to the profession, and only deserves to be well known in order to be thoroughly appreciated.

CANADA

MEDICAL & SURGICAL JOURNAL

MAY, 1888.

Original Communications.

FAREWELL ADDRESS

DELIVERED TO THE GRADUATES IN MEDICINE OF McGILL UNIVERSITY, MARCH 31ST, 1888.

BY GEORGE WILKINS, M.D., M.R.C.S., ENG.,
Professor of Medical Jurisprudence and Lecturer on Histology, McGill University.

Gentlemen Graduates in Medicine:

The duty of addressing a few parting words to you on behalf of the Medical Faculty has this year devolved upon me. Allow me, therefore, in the first place, to extend to you our hearty congratulations at receiving the degree of Doctor of Medicine which the University has just conferred on you through our esteemed and honored Principal.

In presenting you this diploma we confer privileges which, as far as the law is concerned, places you on an equal footing with the oldest and most experienced physicians. This diploma is a guarantee from the University that you have acquired the requisite training and education in the art and science of medicine to qualify you to practice that profession and to be entrusted with the lives of your fellow-men. This does not mean simply that your privileges and duties are to be confined to the curing of disease and the relief of suffering. They will embrace as well the endeavor to ascertain the causes of disease and the application of the laws of sanitary science.

The honorable position that you have now acquired, of which, I am sure, you are justly proud, is the result of four years steady hard work on your part. Nor is the pride associated with this

honor confined to you the recipients of the privileges. Our curriculum requires that you should spend more time under the immediate guidance and instruction of your professors, in the practical as well as in the theoretical branches, than is required by any other University or School of Medicine in this Dominion or in the United States. We have the reputation both at home and abroad, and we believe deservedly so, of having the best facilities for teaching, practically, the final as well as the primary branches of medical education.

We all feel that you have had about as much work as it is possible for man to do in the time you have been required to devote to your studies. Therefore, now that you have had conferred upon you the degree of Doctor of Medicine, we feel that we have fifty-nine more graduates who, compared with graduates elsewhere, are quite able to uphold the high reputation this University has ever striven to maintain.

I am quite certain you have been frequently told that medicine now-a-days is a very progressive science. As a matter of fact, it has within recent years made more rapid progress than any of the other sciences, with the possible exception of the oldest born—astronomy. The increasing momentum of this onward march is year by year gaining in force from the acquisition of new facts. This will necessitate continued study on your part, for your own sakes as well as for the reputation of your Alma Mater. When you begin practice, therefore, you should commence with some definite scientific object in view, one, of course, within the range of possibilities. Naturally your first desire will be to make a living; that is, provided you have no independent means. You must not, however, be in too great a hurry to have an extensive practice. When I hear a young man boasting of his being so excessively busy, I look upon him as a man lost to science. He may in the course of some years become what is called a good practical man, but then you must remember that a practical man is really one who practices the errors of his predecessors. Indeed it would be a great misfortune to any one of you to get too rapidly into practice. The history of the career of our most scientific and

successful medical men either here or on the other side of the Atlantic proves that fact. Although your four years study at college and in the hospital wards may be considered enough to qualify you for the important duties of your profession, still, as soon as you are thrown on your own resources, and are launched out in the struggle for existence in the practice of that profession, you will find continually cropping up questions that are quite new to you and which will require deep thought and study. Whether you like it or not you will be compelled, to some extent, to continue to be a student. If you have the proper scientific spirit you cannot be very long in practice without discovering from some of the cases under your care, that a great deal yet remains to be done in all the departments of medicine. Without this scientific spirit the practice of medicine is devoid of its ennobling qualities, as it is that alone which gives dignity to our calling.

Although the relief of suffering may at first sight appear to be your principal object in life, you must not lose sight of the fact that the science of medicine is one of prevention rather than cure. The mere search after remedies, although a praiseworthy and necessary work, is far inferior in its aims to the investigation of the causes of disease and the discovery of means for its extinction or avoidance. This latter is really the element in medicine that entitles it to the claim of a science. Here is an extensive field in which trained intellect is of inestimable value, and one in which you can profitably employ much of the spare time that you are certain to have in the early part of your professional career. It is a work in which any one of you, considering the training you have had, can engage and tend greatly to ameliorate the condition of our race ; that is, provided you only possess the qualities of patience and industry, and are accurate in your observations. Indeed there is as much to be done in the way of new discovery in this direction as in any other field of inquiry which can be selected.

It is quite true some of your patients may occasionally give you the name of being fond of experimenting. That must not deter you from your proper course. You may if you like tell

them that our science has progressed only by experiment and observation ; that it is by the close observation of the effects of experiment made by disease, and of the thousands of popular experiments that are still being daily made by an easy going public that we hope to progress still further. As a matter of fact hundreds of little ones are being unconsciously made the subjects of experimentation with diseased milk, and thousands upon thousands of all ages are experimenting upon themselves with deadly sewer gases and the use of polluted waters ; that many other similar popular experiments are being daily made. The public are the experimenters. Their experiments unfortunately too frequently, result in disease. These are some of the cases in which you practice your profession both as an ART and SCIENCE : as an art in endeavoring to overcome the injurious tendencies of disease—as a science, in closely observing and recording the symptoms, and in the endeavor to find out the cause of the disease and of its symptoms.

You are all aware of the immense strides made in Medicine of late years through the instrumentality of the microscope, and of experimental physiology, pathology and therapeutics. This may be a more attractive field for some of you, and although it may require a little more outlay in the purchase of instruments, still if at all within your means, I would strongly urge you to provide yourself with suitable apparatus and undertake with it some special scientific work. The advantages you have had in the physical sciences as applied to medicine in the various laboratories are such as can be had in only two or three other schools of medicine on this continent, and should fit you for scientific work. Nor need you be at all discouraged upon discovering that a great many good and kind hearted people, who when ill are quite willing to take advantage of the results of scientific research, and at other times look upon it as nothing more than a hobby, or refined intellectual pursuit. I am quite certain that in after years you will never regret the time and money thus spent. Science in any of its branches is always attractive. It is particularly so when it is found to be applicable to the study of the animal organism, and that life

itself embraces most of the laws of Natural Philosophy. This reminds me that many in this Province believe that Philosophy should form a part of the primary education of the medical student. I also am of that opinion, and hope you gentlemen will use your influence in that direction. Let it not, however, be a scholastic philosophy such as that in which for quite three hundred years engaged the attention of the learned men of the principal universities of Europe during the mediæval ages: where chief theme was the Aristotilian and Platonian views of the universe. Let it rather be a philosophy better adapted to the enlightened age in which we live; the philosophy of a Gallileo, Harvey, Newton, Darwin, a Pasteur, Koch—a philosophy which teaches us that Nature is subject to certain fixed laws; that so far as these laws are concerned she never errs; that those laws prevail just as certainly in the animal body as apart from it, and that the infringement of these laws result in disaster. In after-years besides finding this scientific work of great benefit to you, it will become a pleasant relief from your other occupations. Nor is it at all necessary that you should live in a large city in order to be able to engage in it. No matter how remote the country place in which you may fix your lot, you will find many methods of contributing your quota to the progressive side of medicine, if only so disposed. Koch, whose name and fame sprung into existence only eight or nine years ago, was an obscure country physician, who plodded with his microscope and in experimental pathology, in a small German town. To-day he holds one of the highest and most honorable appointments in the German empire, and his name is known throughout the civilized world. It was steady, laborious work on the part of the late lamented Cohnheim that led him, by a process of reasoning and deduction, from his observations, to foretell "in the not very distant future," to use his own words, the specific bacteria of tuberculosis, the discovery of which a couple of years later, has immortalized Koch, to whom I have just referred.

Remember, gentlemen, that the man who leads the ranks of mankind is not he who has soared above his fellow creatures in

power. It is rather the man who has done most towards enlightening his fellows in their ignorance. Need I refer you as an example to that greatest of modern scientist, whose ashes are entombed in that sacred edifice, where none but the bravest and greatest of England's sons are laid at rest—where, more than once, but a few years previously, both the individual and his doctrines were denounced as bitterly as lately they have eulogized. What was the true cause of Darwin's greatness ? In the first place he himself says that he considers himself " superior to the common run of men in noticing things which " easily escape attention, and in observing them carefully." He attributes his success to his " love of science, unbounded " patience in long reflecting over any subject, industry in " observing and collecting facts, and a fair share of invention " as well as of common sense."

When we read that Lewenhock, the father of microscopy, on looking at the circulation of the blood in the fin of a small eel, by means of a small bead of glass, which he had himself fused into shape, was so delighted with what he saw that, as he says himself, " he invited several grave gentlemen to come and see it, and that they repeatedly exclaimed that " they did not think anything more curious could meet the eye." When we read of facts such as these, imagine for a moment if you can, those " grave gentlemen," or, better still, the immortal Harvey, re-appearing in this sphere of ours, and listening to a recital from any one of you of what you had seen during your course of training at college, and of the observations made by you personally with the instruments of precision of the present day, during the past four years of your college course. How incredulous they would be were you to tell them, as you could truthfully, that each of you are quite prepared to domonstrate to them all that you have related.

I hope, gentlemen, you will not rest content with mediocrity. There is no professsion where success depends so much on steady work. I do not mean altogether pecuniary success. I mean rather that success which has for its highest ambition that you should be recognized by your *confrères* both at home and abroad

as a true disciple of Hippocrates; that that recognition is due to actual advances made in the science of medicine through your work. It matters not how little that step forward may be, it must diminish suffering and probably be the means of increasing the number of human lives saved through the instrumentality of our profession. Do not hide your light under a bushel. The man who simply places on record his observations of the course of disease is doing some good work. Any new fact that you have made out, it is your duty to make known to the medical world either through the proceedings of some scientific society or through the medical press. If no more, it may be the means of directing a train of thought and research in another equally scientific mind, and by a process of gradual development result in some important benefit to our race. In the physical sciences, it is a notorious fact that some of the most abstract and apparently trivial experiments in original research have led to inventions and results of great national importance. The contractions of a frog's leg in the experiments of Galvani have, by a process of gradual development, led to the expenditure of millions upon millions of dollars in the telegraph and telephone and to an immense extension of international and individual intercourse, besides other innumerable advantages that are self-evident.

It is not an unimportant point for you all to remember that with the increased wealth of the world at large, the relative proportion to the masses of those having a more or less scientific education is enormously increasing, consequently the number of laymen who are sufficiently acquainted with subjects allied to medicine and able to detect the ignorance of pretenders is vastly greater than in former times. They well know through the press and otherwise that medicine as a science is markedly progressive, and should they observe a lack of that spirit in you, they may relegate you to the level of the followers of the mythical and insane doctrine of dilutions.

In a few days many of you will have commenced your life-long conflict with disease and death. In this struggle you will be watched by much more critical examiners than those you

have had during the past two weeks. Your habits of life; the manner in which you occupy your spare time; the amount of common sense you are supposed to possess; the use you make of your hands, whether with the knife or in percussing the chest, or even in feeling the pulse; your manner at the bedside,—these and many minor points will have an important effect in determining your relative success and possibly changing it very materially from that existing to-day. I am sure we all wish success to the prizemen who have so well deserved the honor, but the man who has footed the list, provided he has the natural accomplishments of a gentleman, good, sound common sense, and that he is willing to consider himself a student all his life and acts as such, must eventually succeed, and occupy a honorable position. Most of you, I presume, will become "general practitioners." As such, in the course of time you will find yourselves unconsciously become in many cases the confidential advisers in cases of emergency in matters non-medical. Here I will quote you an extract I have taken from the oath required by Hippocrates from every one entering the temple of the healing art, which I would urge you to keep in mind: "* * * "My patients shall be treated by me to the best of my power "and judgment in the most salutary manner, without any "injury or violence. * * * To whatever house I am sent, I "will always make the patient's good my aim. * * * Whatever I see or hear in the course of a cure or otherwise relating "to the affairs of life, nobody shall ever know of it, if it ought "to remain a secret. * * * "

It is very essential to your success, wherever you may locate, that you should secure the friendship of your fellow-workers. On no consideration do any act against your confrères that the unwritten law of the profession would consider improper. You may at first suffer a temporary loss in consequence, but it is an acknowledged fact that no man ever succeeded permanently whose success was not ratified by the members of the profession. They alone are the qualified judges of his real value, and it is usually in accordance with their judgment that he is eventually placed.

You will find many difficulties, which can be overcome only by patience, courage and perseverance. When, as years roll on, and you are numbered amongst the successful practitioners, you must expect to find that your increasing reputation has its drawbacks. The dignified ease associated with the other learned professions becomes more remote as you grow older. You will, however, have the satisfied conscience that you are the more frequently instrumental in relieving the suffering of your fellow man. The discharge of your duties, when associated with kindliness and tenderness, will call forth expressions of gratitude from more than those whose sufferings you have relieved; it will also cause to arise within your own heart inexpressible feelings of thankfulness that you as an individual, not simply the money you represent, are of some use in the world.

Remember, gentlemen, wherever you go, the diploma you have so deservedly obtained is a passport amongst the members of our profession either at home or in foreign climes. Remember also the pledge demanded by Hippocrates from everyone entering the temple of the healing art: "with purity and with holiness I will pass my life and practise my art." Your Alma Mater will expect you to keep unsullied this guarantee of honor and trustworthiness she now bestows on you. I am sure, gentlemen, I express the heartfelt wish of every member of this faculty when I say, may God bless you and prosper you in your journey through life.

RARE FORMS OF URINARY EXTRAVASATION.

By James Bell, M.D.,
Surgeon to the Montreal General Hospital.

(Read before the Medico-Chirurgical Society of Montreal.)

Mr. President and Gentlemen—I wish to bring before you to-night the reports of two cases in which urine became extravasated in unusual situations, and in each of which it pursued an unusual course. (These cases have nothing in common beyond the occurrence of this accidental condition.)

Case I.—H. R., aged 32, was admitted to hospital on the 3rd of September last suffering from retention of urine. He was a sailor and had suffered from stricture for fifteen years, and had received treatment for it at different times in marine hospitals in all parts of the world. For years he had carried with him a No. 2 silver catheter and an ordinary wire stilette, with which he relieved himself when retention occurred. When he appeared at the hospital he stated that he had been four weeks in port and had been drinking heavily all the time, and that he had been obliged to relieve himself with his No. 2 catheter several times, but that for twenty-four hours he had not been able to pass any water, and had also failed to introduce either the catheter or the stilette, both of which he had tried. The house surgeon, after some difficulty, succeeded in passing a No. 2 catheter (English) through a stricture situated in the penile urethra, just in front of the scrotum, and emptied his bladder. The patient was very ill at the time, however, and had a temperature of about 105°F. On this account I postponed operating upon his stricture until the 6th—three days later—and then, although his condition was unchanged, I performed an internal urethrotomy and dilated the urethra to 34 (French). There was only the one stricture—that at the root of the penis—and no difficulty was experienced in the operation. As the stricture was so far forward, the rectum was not examined before nor at the time of the operation, although the patient complained of uneasiness about the neck of the bladder, which was at the time attributed to the prolonged retention. On the following day (the 7th) he was somewhat

better, but complained more of pain about the anus. From the perineum there was considerable tenderness on pressure over the region of the prostate, but no swelling nor sign of infiltration. Urine passing freely. Temperature 102°F.

Sept. 8th.—Patient complained of diarrhœa; pain and fever persisting. No further examination was made until the 12th, six days after operation, when the rectum was explored, the patient being anæsthetized for this purpose. The anus was red and swollen, and on introducing the finger the rectum was found to be surrounded by suppuration, which separated it from the bony pelvis as far as the finger could reach and also from the sphincter ani posteriorly and laterally, so that the finger could be introduced between the bowel and the sacrum and ischia. The sphincter was then cut through posteriorly so as to allow a freer escape of inflammatory products and the cavity washed out with a warm sublimated solution. The washing was continued daily, and three days later a large piece of the rectum was found lying loose and completely separated, and was easily withdrawn. This piece of gut measured four inches in length and from an inch and three-quarters to two and a half in width, and consisted of the posterior and lateral walls of the gut from close upon the prostate on the left side around to the right side, but not reaching to the prostate on the right. Much sloughy cellular tissue also came away, and from this time the patient's condition rapidly improved until the 24th of October, when he left the hospital to join one of the outgoing vessels as an able seaman. The wound seemed to be quite healed at this time, the deficiency in the rectum being filled with cicatricial tissue. Defecation and micturition were normally performed, and the urethra admitted a No. 34 sound without difficulty.

There can be little doubt, I think, but that this patient, in passing the No. 2 catheter or stilette while drunk, must have wounded the neck of the bladder in or about the point of the prostate and behind the triangular ligament, and that the subsequent distension of the bladder forced a few drops of urine into the peri-rectal cellular tissue, which produced the ordinary results of urinary infiltration.

CASE II.—In this case extravasation occurred into the pelvis from the reopening of a wound in the bladder which had been accidentally inflicted during the performance of an ovariotomy.

Mrs. L., aged 42, was admitted to the Montreal General Hospital on the 20th of September last suffering from an abdominal tumor which had been growing for twelve years, but which had increased rapidly in size during the last four months. Her general health was excellent. She had never had any pain, and suffered only from the inconvenience of the rapidly enlarging growth. Menstruation was regular and normal. On examination, the abdomen was seen to be enlarged to about the size of a full-term pregnancy. The tumor had evidently grown from the left side, and was round, smooth, painless on pressure, and only very indistinctly fluctuating at its most prominent point. Per vaginam, the uterus was freely movable. The diagnosis was a left parovarian tumor. The operation was performed in the usual way four days after admission, the patient being catheterized by the nurse before being brought into the operating-room. On tapping the tumor only a few ounces of fluid could be withdrawn, and it was seen to be a dermoid cyst containing the usual semi-solid sebaceous-looking material. The abdominal wound was enlarged and the tumor delivered entire. There were no adhesions except about the left broad ligament, from between the layers of which it had to be enucleated. When this process was being accomplished a broad vascular mass of adhesion was encountered, which it was thought wise to ligature in sections and cut with the scissors. This mass was to the left and partly in front of the tumor, and, unknown to the operator, contained a portion of the fundus of the bladder, which had been carried high up into the abdomen by the growth of the tumor. In this way, therefore, the bladder was wounded, an incision about an inch long having been made into its upper and posterior surface with the scissors. This was immediately sutured with catgut after Lembert's method and the tumor removed. The operation was concluded, the wound closed and a dressing applied, and the patient made uninterrupted progress until the twelfth day. For the first four days a soft rubber catheter was tied

into the urethra; from this time it was removed and passed every two hours. On the twelfth day the nurse (a new one) complained that she "could not get the catheter in far enough," and that the urine withdrawn had been bloody. The patient also complained that the passage of the catheter pained her. It was then ordered to be passed every four hours, and the bladder was washed out daily with a weak solution of salicylic acid dissolved with borax. Next day a small hard mass about as large as a marble was observed at the lower end of the abdominal incision, which was painful on manipulation. This mass remained without much change, and irritability of the bladder with fœtid bloody urine persisted. On the eighteenth day after operation the mass was found to have suddenly disappeared, but the patient complained of pain and tenderness over the left inguinal region and in the left loin. These symptoms, together with a marked diminution in the amount of urine withdrawn by the catheter made it clear that a general extravasation of urine had occurred into the left side of the pelvis. The patient was therefore anæsthetized and the abdomen opened through the lower inch of the original incision (over the site of the little hard mass which had first appeared). Urine flowed from this incision, and on exploring with the finger an opening could be felt in the fundus of the bladder which would almost admit the point of the little finger, while a larger sinus led down into the left side of the pelvis. Through this last a pair of long forceps was introduced and protruded into the left side of Douglass' fossa, when an incision was made into the vagina. A large drainage-tube was then drawn from the vagina through this opening and up through the abdominal wound and a large soft catheter tied into the urethra. The whole cavity, as well as the bladder, was then thoroughly washed out with a solution of salicylic acid and borax, the wound freely dusted with iodoform. and a gauze dressing applied. The drainage was very satisfactory and the patient's condition immediately improved. The wound was irrigated and dusted with iodoform and dressed as above described daily. Four days after the incision sloughs of cellular tissue began to come away in enormous masses, and an incision into the loin was found to be

necessary on account of a collection of sloughy tissue in that region. The sloughs were soon all removed, and about this time (fourteen days after incision) a dark jelly-like, fermenting substance came away from the wound in considerable quantity for a few days. It was odorless, and a careful microscopical and chemical examination failed to determine its exact nature. The bowels acted normally throughout. During the separation of the sloughs the patient suffered from severe sciatic pain and hyperæsthesia of both legs. These symptoms began on the left side, and were more severe and lasted longer on that side. By the 20th of October all these symptoms had disappeared, the wounds were looking healthy, the bladder wound was nearly closed, the use of iodoform, which had been of late greatly lessened, was now entirely discontinued, and the prospects of recovery were most encouraging. It is worthy of note here that until the sloughs began to separate there was no elevation of temperature whatever, and at no time was the temperature high or continuous, but from the onset of the bladder symptoms the pulse remained rapid—from 100–120. About the 1st of November an acute mania developed, and from this time, although the local conditions continued to improve, the patient had to be forcibly restrained. She refused food, and was in a state of maniacal excitement day and night, without sleep and with frequent involuntary evacuations, gradually and perceptibly sinking until the 9th of November, when she died; at the end of the eighth week after operation. Slight delirium at night and a peevish, nervous condition of the patient, especially while being dressed, had been observed for a few days before the violent maniacal symptoms set in. These latter lasted about eight days, and were accompanied by very rapid emaciation. Unfortunately an autopsy could not be obtained.

This case presents many points of interest, and illustrates a chapter of accidents such as it fortunately seldom falls to the lot of the surgeon to report in any individual case.

(1) It emphasizes the necessity for instrumental exploration of the bladder by the surgeon before operating. It had heretofore been my practice to allow the nurse to catheterize the

patient before bringing her into the operating room. This was done with the double object of shortening the period of anæsthesia and to avoid soiling the hands after having cleansed them for operation. Important as these matters are, however, they are not to be compared with the risk of wounding the bladder, which is occasionally carried high up into the abdomen on the surface of the tumor.

(2) It strengthens the evidence already existing to show that catgut is not to be relied upon as a suture to retain the contents of a hollow viscus. I may say here that from past experience I would not have used catgut, but that no suitable silk was at hand at the moment.

(3) The necessity for careful and thorough catheterization for at least two weeks after an accident of this kind is here shown.

Finally, with regard to the acute maniacal condition, which was the immediate cause of death, and which supervened when to all appearances the other difficulties had been overcome, I have two suggestions to make, viz., that it was due either to the toxic effects of iodoform or to the absorption of ptomaines or leucomaines from the urine retained and decomposing in the cellular tissue of the pelvis? The patient was a healthy, vigorous woman, with an excellent family history, and who had never suffered from any form of nervous derangement in her life. On the other hand, the use of iodoform had been practically discontinued for several days before the maniacal symptoms appeared, and the cavity had been thoroughly irrigated every day with a solution of salicylic acid and borax.

I need only mention here a third case, in which, during the performance of an ovariotomy, a strong fibrous band connecting the surface of the tumor with the base of the bladder was stripped off from the latter tearing away its peritoneal covering over a small area. Nothing was thought of this at the time, and the patient made an excellent recovery; but two weeks after operation a small inflammatory mass appeared at the lower angle of the abdominal wound. This was thought to be a stitch-hole abscess, but on pressing it an amber-colored fluid exuded. A

large soft catheter retained in the urethra for ten days not only gave immediate relief to the symptoms, but effected a complete cure.

The history of these cases shows that the necessity for early surgical interference where extravasation of urine has occurred within the pelvis, no matter how slightly or how gradually occurring, is as great or greater than for extravasation into the perineal tissues. Had I recognized the condition sufficiently early in case No. 2 of this series, I have no doubt but that I would have saved my patient.

QUARTERLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

PREPARED BY T. JOHNSON ALLOWAY, M.D.,
Gynæcologist, Montreal Dispensary; Assistant Surgeon, Montreal General Hospital.

In the *British Gynæcological Journal* of February Dr. Purcell, of the Cancer Hospital, reports a case of vaginal hysterectomy for carcinoma. The interesting points in connection with the report are that Dr. Purcell ligatured the broad ligaments *en masse* on each side after getting into the peritoneal cavity above and below. He also uses a glass drainage tube not open at the bottom, but containing holes. Tube removed for first time on the fourth day after operation, when all was well. On the following day, however, symptoms of cellulitis, peritonitis and formation of pus became evident. These symptoms subsided after injection through tube of iodine-water.

In commenting upon the case, we do not think the glass tube of Tait is an improvement on the T-shaped rubber tube of Martin combined with the iodoform packing introduced by Fritsch. It would have also been better had the tube and dressings in Dr. Purcell's case been left undisturbed for at least the sixth or seventh day after the operation. The interferance on the fourth day was quickly followed by the formation of infective pus. The reason of this is evident and clear; the lymph spaces in the connective tissue wounds are not properly closed until after the sixth or seventh day, and therefore should be left completely at rest until after that time.

At the same meeting the President, Dr. Granville Bantock, reported a case in which he had performed vaginal hysterectomy. Dr. Bantock's case was one of malignant disease of the body of the uterus, cases of which are so favorable for good results after vaginal hysterectomy. Bantock's method of operating differs somewhat from that described by Purcell, in that after circumcising the vaginal vault he separated first the bladder from the uterus *with the finger*. In effecting the separation of the structures laterally, whenever he came across a resisting band he applied a pair of pressure forceps and divided the band between the instrument and the uterus. Meanwhile traction was kept up by means of a volsella fixed in the cervix, and with each division of a resisting band the uterus descended a little. In this way he proceeded towards the fundus, and he was able to bring the posterior aspect of the broad ligament at its junction with the uterus into view and divide it piecemeal, and thus see any bleeding vessel. All the vessels were thus secured by pressure forceps and afterwards ligatured separately. Finally the pelvis is washed out with warm water and a drainage-tube inserted, which is packed lightly around with iodoform gauze. In this case the bladder after forty-eight hours gave way and necessitated the performance of a second operation some time afterwards for the closing of the fistula.

In considering this method of Bantock side by side with that of August Martin, of boldly opening into Douglass's pouch at once and by the guidance of the left forefinger suturing the vessel-containing tissues with curved needles armed with stout silk and dividing between silk and uterus, we would prefer the latter in which we have had experience. In Bantock's method it appears to some extent groping in the dark, and the instruments allowed to accumulate in the vagina must ere long obstruct and hinder the operator.

Enucleation by Electrolysis of a large Uterine Fibroid.—Dr. Holland reports a case aged 38, mother of seven children, severely blanched and flooding when admitted. Upper limit of tumor level with umbilicus, hard and multiform. A negative current of 50 milliampères for ten minutes; in three days 80

mill., and in four days afterwards 150 mill. Pain followed this last application. Ten days afterwards, the hemorrhage continuing, positive pole 250 mill. applied for twelve minutes. The hemorrhage now became arrested and did not return. In three days A.P.N. 250 mill. again applied for ten minutes. In three days A.P.N. 250 mill. In three days A.P.N. 300 mill. In three days A.P.N. 235 mill. Following this last application patient had chilly sensations, rise of temperature, and an increasingly more and more fœtid discharge became established. Severe pain and evident sloughing of the mass now set in. The temperature continued high and within a few days a large sloughing mass was bloodlessly enucleated and extruded into the vagina. In a few days another large and similar mass was expelled. The removal of these masses was attended with considerable difficulty. In the instance of the first, the left lateral wall of the uterus became inverted, and was with difficulty separated from the mass and replaced. Douches of chlorine water were assiduously employed every three hours, and with the aid of quinine, kept the temperature under control. In fifteen days from time of expulsion of second mass the patient was convalescent, the uterus measured $2\frac{3}{4}$ inches, and there was no evidence of tumor. All this was accomplished in exactly fifty-five days. The tetanoid condition into which this character of tumor is thrown by the electric current is urged by Dr. Holland as a means to be used in diagnosis when there is a doubt between uterine and other tumors. And we would here add that the action of electricity and of ergot upon uterine tumors are of a somewhat similar nature if we take the action of electricity in the above case as a type. They both tend to arrest hemorrhage, and the danger in abuse of both is similar, viz., death of the growth from strangulation.

Dr. Burford has seen this tetanoid condition of uterus continue for five or six hours after application, and states that he has seen 700 milliampères A.P.P. used without much intolerance and no evil results ensuing.

Dr. Mansell-Moullin stated that the electric current would be of use in aiding the treatment of fibroid by enucleation. It

would force the tumor down into the pelvis and make it more accessible. But there was, in his opinion, no evidence of its causing a diminution in bulk, as claimed for the electrolytic current of Apostoli. In the numerous cases in which he had seen the treatment carried out with that view, failure had been the result in every instance.

Dr. Heywood Smith reported a hysterectomy; uterus weighing 7¾ pounds. Tumor when *in situ* reached two inches above umbilicus. It was multiform and the cavity measured 7½ inches. The interesting point in this case consisted in the discovery, on opening the cavity of the uterus, of a polypus about the size of a Tangerine orange growing out from the fundus. A similar case to this Dr. Bantock had reported some short time ago. Dr. Heywood Smith drew attention to the fibroid outgrowths and to the numerous separate fibroid tumors that were imbedded in the uterine walls, and in view of the exceedingly strong remarks made by Dr. Thomas Keith (*Brit. Med. Jour.*, Dec. 10) against the operation of hysterectomy, he wished to ask whether the electrolytic method of Apostoli would have had any beneficial effect in the case of the tumor he now exhibited, and whether many cases did not arise where it would be worse than a waste of time to subject a patient to such treatment with the probability of having to have recourse to the operation of extirpation after all.

Dr. Fancourt Barnes stated that he had in one of his wards at the present moment a patient with a fibroid tumor of the uterus whom he had allowed, at her own request, to be treated after Apostoli's method by one of his colleagues. The result was that her temperature rose within a few days to 103°F., and in addition to developing various symptoms of blood-poisoning, she has had a painful swelling in the axilla, with pain in the right elbow-joint and phlebitis of right arm. Her present condition was very serious.

Dr. Bedford Fenwick, of the Hospital for Women, Soho Square, read a paper "*On the Use of Local Blood-letting in Gynæcological Cases.*" Dr. Fenwick, in speaking of the various methods employed, tells the strange story of a leech, through its innate

love of investigation as a traveller, having escaped from the vagina up through the cervix, uterus and fallopian tubes to the abdominal cavity, there giving rise to an hæmatocele from which the patient recovered after months of invalidism. The moral Dr. Fenwick draws from this is—Do not apply leeches in the vagina. He recommends Fergusson's speculum to expose the cervix, and a Buttle's scarificator or some such knife to puncture the part with, the patient lying on her side. The vagina is afterwards injected with hot water and a cotton tampon applied. The following are the cases in which Dr. Fenwick has found most suitable for benefit by this method:

1. When cervix presents a deep bluish appearance, evidencing much and long-continued congestion of the uterus.

2. In cases of throbbing or having pain over region of ovaries.

3. By leeches around anus in cases where the cause is the presence of inflamed hæmorrhoids and such like congestive conditions.

Dr. Fenwick then cites a case of dysmenorrhœa and dyspareunia associated with conical cervix. This patient returned on four different occasions some distance apart "to have more blood drawn." She would quite recover from pains after the operation, but all would return again in a few months.

Case 2.—A case of congestion from retroflexion following subinvolution and chronic metritis cured by *one* "*bleeding.*" (?)

Case 3.—Case of lacerated cervix; subinvoluted uterus heavy, large and tender, sound passing $3\frac{3}{4}$ inches; cervix large, deeply lacerated, lips everted, large, deeply congested, almost purple in color. She was scarified five times. Ergot and a tonic given, In three months the uterus was reduced by $2\frac{3}{4}$ inches and the patient cured. Dr. Fenwick stated that this case had been under treatment in two general hospitals and one special hospital without relief, and that he presumes Emmet's operation should have been performed, from a theoretical point of view, or that she probably should have had intra- and extra-uterine cauterization, but that he considered his scarification plan as more scientific and common-sense.

Case 4.—Endometritis and sterility. Scarified weekly for

three weeks and hot douches ordered night and morning. In three weeks the erosion was healed, the cervix was pink instead of bluish, and the discharge had almost ceased. She became pregnant.

Case 4.—Subacute ovaritis. Nine leeches applied over left side, which restored her at once completely; was out of bed in three days. This woman, Dr. Fenwick insinuates, had a narrow escape from having her ovaries removed by a well-known London specialist.

In the discussion on Dr. Fenwick's paper it was generally conceded that the old-fashioned plan of blood-letting, local or general, gave temporary relief to the congested part, but that this relief was purely temporary and not curative. It is well known that scarification of the cervix for the relief of almost any pelvic pain woman is heir to has been well tried and extensively carried out in its day of fashion, and that its necessary repetition proved so irksome, unsatisfactory and so purely devoid of rationalism consistent with the pathology of chronic uterine inflammation, it was given up gradually as progressive surgeons became more enlightened in uterine pathology. The practice has also been found not free from danger through excessive hemorrhage. Further, to say that a deeply lacerated cervix followed by subinvolution and general hyperplasia can be cured by scarification is stating a good deal more than our experience will allow us to accept. We have had one such case within the last few months admitted to the Montreal General Hospital with the history of having been scarified and burnt for some months at one of the London hospitals. A few days after admission the whole of the diseased tissue was exsected after Schroeder's method. She was discharged as cured in eighteen days—a result somewhat more rapid and radical than that by the method of scarification. Local blood-letting in chronic pelvic disease may suit the medical gynæcologist, but his cases will eventually find their way to the surgeon.

Treatment of Gonorrhœal Vaginitis and Endometritis.—Dr. Fritsch strongly recommends the use of chloride of zinc solution in the treatment of these conditions. He uses equal

parts of chloride of zinc and water, and of this adds 20 grains to one litre of water at a temperature of 30°R. This solution is used as a vaginal douche twice a day.

The Pathology and Treatment of Abortion.—When abortion is inevitable, many cases end satisfactorily if the usual antiseptic precautions be observed; in neglected cases death only occurs from hemorrhage or sepsis. The four chief indications to be recognized are: (1) Control hemorrhage; (2) Relieve pain; (3) Dilate cervix; (4) Empty the uterus. To control hemorrhage use the plug. If the cervix is open and the ovum protruding ergot is indicated, otherwise ergot is contraindicated. To relieve nervous symptoms, chloral and bromides, Indian hemp or opium may be given. If the ovum is not detached, or only a portion expelled, the uterus may be emptied. For this purpose the finger or ovum forceps are the best for the purpose. —(*J. A. Lycett, M.D., Birmingham Med. Review.*)

The teaching here is certainly very old and dangerous. We hope the plugging method of treatment will soon be fought shy of. The only rational mode of treating abortion is contained in the last indication, viz., to empty the uterus. Lives are only lost when it is done too late. Procrastination or an expectant course is the most fatal to pursue. Dr. Mundé reports in his paper 57 cases treated with one death. In this fatal case the abortion was self-induced, carrying with it possible severe traumatism to the uterus. At the time of operation the patient was septicæmic, with a temperature of 103°F, and the immediate effect of the operation was a fall of temperature to 98°. I have operated during the past five years in over one hundred cases with one death. This fatal case occurred in a patient who lived some distance from town. She had been profoundly septicæmic at the time of the operation and had been so for some days previous. In a few hours following the operation secondary pyæmic manifestations showed themselves in the joints, and the patient died of pyæmia in hospital a few days afterwards. The result of this case shows that the prognosis after operation in such a case is directly in relation to the duration and degree of intensity of the septic phenomena.

Abortion is fraught with more danger to the woman than labor at full term. It is, as Goodell puts it, "as the plucking of immature fruit." By active and timely interference the patient is spared the danger from profuse hemorrhage which might occur at any time during the absence of the physician. Then there is ever the risk of septic infection setting in, after the advent of which no one can say with certainty which way the case will end. By active intervention is not meant unnecessary interference. Nature is ever to be given a chance; but when we see that she fails to accomplish the removal of her dead fruit it is but rational that we should come to her aid as quickly as possible. Active intervention in cases of incomplete abortion was first strongly advocated by Dr. Paul F. Mundé of New York and by myself, in two articles appearing simultaneously in the February (1883) number of the *Amer. Journal of Obstetrics.*

Treatment of Cancer of the Uterus.—Cancer of the uterus can be completely cured by vaginal hysterectomy, provided the disease be still in its early stage and the incision for the removal of the uterus be made in healthy tissue. The extirpation must be complete, as it is impossible to define the limits of healthy and diseased tissues. In the early stages there will be some erosion, on the surface of which small nodules, dark-red or yellowish-red, project and which bleed very easily. At first these nodules appear innocent, but if removed and examined microscropically they present all the characteristics of cancer. According to Prof. Schanta total extirpation of the uterus gives the best results—70 per cent. of cases ending in "complete restoration to health."—(*Prof. Schanta, Pittsburg Med. Review.*)

The Technique of Vaginal Hysterectomy—(*A. Martin.*)—It is of little consequence on which side of the uterus detachment from the vagina is begun. The author prefers beginning on the posterior fornix, as the peritoneum is easier to reach. It must be a requisite that there is free mobility of the uterus. The detachment of the lateral fornix must reach right to the side of the body of the uterus. Always complete the operation on one side before proceeding to the other. It is to detach the bladder after both sides and the back of the uterus have been made free,

and great care must be taken in this step of the operation, which is best performed with the fingers. Occasionally the author has punctured the bladder with the suturing needle, but no harm has resulted. In two cases he has opened the bladder, forming a vesico-peritoneal fistula. In both of these cases recovery took place. The author has never injured the ureters, which, he says, are close under the pubic arch and far from the cervix. To remove the uterus the fundus may, if large, be everted through the posterior opening; in other cases there is no need to proceed to evert. The ovaries and Fallopian tubes should be removed if possible, the ligatures inserted into the lateral part of the broad ligament. Any bleeding points are ligated either separately or in one large ligature. The intestines seldom or never prolapse. It is better not to close the vaginal opening, through which a drainage-tube is passed, the outer end of the tube being covered with salicylated cotton. This tube is removed on the eighth day. The bowels are moved on the fourth day, and the patient allowed to get up between the tenth and twelfth days.—(*Amer. Jour. of Obstetrics.*)

The Operative Treatment of Retroflexion of the Uterus.—Sänger (*Centralblatt für Gynakologie*, Jan. 14, 1888) makes a valuable contribution on this subject, in which he presents a brief, but comprehensive, historical view. He estimates that in at least twenty per cent. of cases of retro-displacement it is impossible to keep the uterus in its normal position after replacing it. Why, he asks, can we not, in those cases in which the organ is only retained in position when a pessary is introduced, perform some operation which will render the pessary unnecessary? The essentials demanded of such an operation must be safety and the restoration of a condition which corresponds as closely as possible to the natural one. This desideratum has not yet been attained. He divides the various operative procedures into the indirect and the direct. Among the former he includes: 1, Repair of the lacerated perineum, with correction of the prolapse of the vagina and uterus. 2, Repair of the lacerated cervix alone. 3, Amputation of the *portio vaginalis*. 3, Removal by laparotomy of any neoplasm which may directly cause

the displacement. 4, Removal of the uterine appendages. As an illustration of the latter method, he cites a case in which he removed the ovaries in order to relieve various hystero-neuroses associated with menorrhagia. The uterus was retroflexed. Some months after the operation the hemorrhage recurred. On examination, the uterus was found to be still retroflexed and no smaller than before. The left stump appeared to be thickened and tender on pressure. At the earnest request of the patient laparotomy was performed a second time, and the affected stump was freed from the adhesions which it had contracted. The adherent uterus was detached, anteverted, and retained in position by means of a Hodge pessary. Although the organ soon returned to its former malposition, it decreased in size, the hemorrhage ceased, and the patient was entirely relieved. It was evident from this that persistent hemorrhage from a retro-displaced uterus after castration was to be ascribed directly to the retroflexion. Among the indirect operative measures may be classed Schultze's method of separating periuterine adhesions by bimanual manipulation. Of the direct operations he mentions (1) Von Rabenau's method of resecting a portion of the vaginal wall, in order that traction on the cervix may result from the resulting cicatricial contraction; (2) Alexander's operation, which in itself is not enough, as it does not attack the cause of the displacement, although, if combined with shortening of the antagonizing utero-sacral ligaments, it may be made more efficient; (3) the treatment of retroflexion by laparotomy and ventral fixation of the organ. The latter operation was first attempted by Kœberlé in 1877. After removing the ovaries he sewed the stumps in the abdominal wound. P. Müller, a year later, attached the fundus to the abdominal wall. Schultze, writing on this subject in 1881, said that the performance of laparotomy for the express purpose of curing retroflexion was only justifiable after attempts to break up the adhesions by bimanual pressure had proved unsuccessful, and that even then it was too dangerous a procedure to be advised. Olshausen renewed the discussion of the subject in 1885, and reported two cases, in one of which he attached the stumps (after oöphorectomy) to the lateral walls of the pelvis, while in the

other the sutures were introduced through the cornua of the uterus, at the base of the round ligaments, and were then carried as deeply as possible through the muscles of the abdominal wall. In this way a greater range of motion was obtained for the uterus than was the case when the fundus was attached. Tait reported two cases in 1880, and Hennig another in 1881, beside others by Bardeleben and Czerny, and two by Sänger. Soon after Olshausen's paper appeared, Dr. Howard A. Kelly of Philadelphia performed an operation, which he subsequently reported under the name "hysterorrhaphy," a word to which Sänger objects, since from its etymology it would imply a plastic operation upon the uterus itself; "gastro-hysterosynaphia," or "ventro-fixatio uteri," are suggested as being more appropriate terms. The following variations in technique have been practised: 1. Removal of the appendages and suture of both stumps in the abdominal wound. 2. Ovariotomy and suture of a single stump in the wound. 3. Removal of the appendages and attachment of the fundus uteri to the abdominal wall. 4. Attachment of one stump to the abdominal wall. 5. Attachment of both stumps as in 4. 6. Suture of the cornua uteri to the abdominal wall, without removal of the appendages. The author reports seven operations performed after different methods, in all of which the uterus was permanently fixed in the normal position. It is frequently stated, he concludes, that after the removal of the appendages the retro-displaced uterus diminishes in size and gives rise to no further symptoms, but this retrograde process is often indefinitely delayed, while pain and hemorrhage persist.—(*Amer. Jour. of Med. Sciences.*)

The Operative Treatment of Retroflexion with Fixation.—Klotz reported before the Dresden Gynæcological Society in October, 1887, seventeen successful cases of retroflexion which he had treated by opening the abdominal cavity, separating the retro-uterine adhesions (and also those around the tubes and ovaries), and securing the uterus in a position of anteversion by attaching one tube, or the stump left after removing the appendages, to the abdominal wound. He then passed a glass drainage-tube, about one inch in diameter, to the bottom of Douglas's

pouch, and left it *in situ* for three or four weeks. The advantages claimed for the tube were:

1. The cavity could be washed out daily, so that blood or exudation could not collect in it.

2. The uterus was supported in its new position during the entire process of healing, so that no strain was thrown upon the stump.

3. A layer of organized lymph formed around the drainage-tube, which layer subsequently became a firm cord of connective tissue that "thickened the posterior wall of the uterus and also formed a second point of fixation to the abdominal wall."

No bad effects followed the introduction of the tube, which, after the fourth day, was daily turned about on its long axis in order that the lateral openings might not become plugged; shorter tubes were substituted later for the original one. Sepsis was absent in every instance in spite of the prolonged use of the tube. In three cases only was it necessary subsequently to correct the position of the uterus with a pessary, by reason of the formation of fresh retro-uterine adhesions which tended to draw the organ backward. The uterus remained in a position of anteversion and was freely movable; the operation was free from pain, and there was no disturbance of the functions of the bladder. Hernia had never followed the operation, in spite of the use of the tube, which was the more remarkable as Klotz had seen a hernial protrusion caused by attaching the fundus uteri to the abdominal wall.—*Ibid.*

Reviews and Notices of Books.

A Manual of Physiology. A Text-book for Students of Medicine.—By GERALD F. YEO, M.D., Dubl., F.R.C.S., Professor of Physiology in King's College, London. Third American from the second English edition, with 321 illustrations and a glossary. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. Montreal: C. Ashford, Dorchester street.

The fact that this book has reached three American editions in so short a time is ample evidence of its popularity. This work did really supply a want, being in moderate compass a somewhat concise statement of the essentials of physiology, yet well up to date, fully illustrated, and giving at once the facts and methods most needful for the ordinary medical student. In the earlier editions a few passages were somewhat obscure or inaccurate and required rewriting. This has been done to some extent at least. New illustrations have been supplied and a small amount of additional matter thought necessary by the progress of physiological science in the meantime. The preservation of an excellent balance between the different parts of the work, and the introduction of just about the proper amount of anatomy, are features in which it excels most text-books. We have always thought well of this work, and wish it continued success.

A Practical Treatise on Diseases of the Skin.—By JAMES NEVINS HYDE, A.M., M.D. Second edition. Philadelphia: Lea Brothers & Co. 1888.

We heartily welcome the second edition of this most excellent work. Some years ago we had the pleasure of reviewing the first edition, and at that time strongly recommended it as the best book in English which set forth the principles and practice of the great Vienna school of Dermatology as created by Hebra. The second edition contains one hundred pages more than the first, and much of the book has been rewritten. Two colored plates and numerous woodcuts have been added. The work is concisely and clearly written, and too much theorizing is not in-

dulged in. When speaking of the administration of internal remedies for skin diseases, the author remarks "it can be safely said that there are no remedies to be given by the mouth which can be described as certainly and specifically curative." How often practitioners expect to cure skin disease by the administration of arsenic or salines is well known to dermatologists. Dr. Hyde looks upon arsenic as being a very uncertain remedy in the treatment of diseases of the skin. Unna's salve-muslins are highly spoken of, but the great expense is an objection to their use. When speaking of Lichen scrofulosum, Dr. Hyde states that it has not yet been recognized in this country. A case was reported in the CANADA MEDICAL AND SURGICAL JOURNAL for December 1880, to which we should like to draw the author's attention. In conclusion, we may say that this work is not only well suited as a text-book of the higher class for students, but it is in every way adapted to the wants of the scientific general practitioner.

The Treatment of Hæmorrhoids by Injections of Carbolic Acid and other Substances.—By SILAS T. YOUNT, M.D. Second edition. 1888; pp. 102.

This little work is evidently intended for popular perusal, and is meant to show how much better the author's mode of treatment is for the patient than that adopted by most surgeons. All that is contained in it of use to the profession might easily be compressed into a medical journal article of no great length. The padding consists of the weakest kind of anatomical description of the rectum and its blood supply, a great number of prescriptions and "sure cures," and reports of cases cured by his method of injection. The following is a sample case: "R.J.S., aged 36, has had piles for several years. First consulted me for loss of sexual power. On obtaining a complete history, I was sure that a part of his trouble was due to an aggravated case of hæmorrhoids. The impotency in this case was purely reflex, due to the presence of the piles. I commenced injecting them with a five per cent. solution. He progressed rapidly and was discharged cured in about two months, without sloughing

or loss of time." Describing another case he says: "A wealthy gentleman from a distance came to me to be treated for a severe case of internal hæmorrhoids. I was doubly anxious to cure him, because I wanted the big fee he offered me, and, besides, his recommendations would be worth much," etc., etc. He speaks of oil of sandalwood as a remedy which "relieves congestion and engorgement of the portal system, and also depurates the blood generally."

Dr. Yount has invented a speculum which he considers the very best—in fact, the only one that fulfils all the requirements necessary in a speculum. Speaking of the danger of injecting a too strong solution of carbolic acid, he says: "If I had to be treated for hæmorrhoids, and had the choice of either the ligature or strong injections of carbolic acid, I would take the ligature first, last, and all the time."

No doubt treatment by the injection of weak solutions of carbolic acid has its advantages when properly performed in selected cases. It is comparatively painless and free from danger, and people who like to be "worked over" will be pleased with it, as takes from two to four months to effect a cure. The language is not very choice or scientific, as the samples given above show, but we have not the slightest doubt that a new edition will soon be called for by those individuals who, being conscious of a rectum (*mens conscia recti*), desire to know all about that dark and unsavoury department of their economy. The book is cheaply got up, the chapters are short and the margins wide, the print is large, and the illustrations unobjectionable.

Obstetric Synopsis.—By JOHN S. STEWART, M.D. Philadelphia: F. A. Davis. 1888.

This book is a synopsis of Prof. W. S. Stewart's course of lectures at the Medico-Chirurgical College, Philadelphia, prepared under his immediate supervision. It will no doubt be a valuable help to students who have heard his lectures, but it can scarcely be recommended to others. It is impossible to compress into 184 small pages all that a student should know about midwifery, and the great objection to such manuals must always be

that they tempt the idle to cram. The new obstetrical nomenclature adopted at the Washington International Congress has been inserted as an appendix. This is as it should be, and it is to be hoped that other authors will follow Dr. Stewart's example.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, February 3rd, 1888.

JAS. PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

Drs. Spendlove and Laberge were elected members.

Amyotrophic Lateral Spinal Sclerosis.—DR. STEWART showed a case of amyotrophic lateral sclerosis. The patient, a man aged 34, always enjoyed good health until his present trouble begar, which was about a year ago. The first symptom complained of was a feeling of pricking, coupled with a cold sensation in the ball of the left thumb. Shortly afterwards, wasting of the thenar eminence was noticed, and this was quickly followed by wasting of the interossci of the same hand. At the present time there is very marked atrophy of the left thenar and hypothenar eminences, and of all the interossci of the same side. There is slight wasting of the flexors on the anterior surface of the forearm and of the biceps and deltoid of the same side. The spinati, as well as the rhomboids and pectorals, are also the seat of marked atrophy. There is slight wasting of the corresponding muscles of the right hand, arm and shoulder. The atrophic muscles are subject to fibrillary twitchings; many apparently normal muscles are also subject to these twitchings. He complains of "waves of twitchings" passing through his head (scalp). The muscles of the lower extremities are very frequently the seat of these troublesome twitchings. The left hand and shoulder atrophic muscles exhibit a modified reaction of degeneration, the contractions being very slow while the A S Z < K S Z. During the past ten days there has been a gradually increasing loss of power in the left lower limb. This has now attained a degree almost sufficient to prevent the patient

going about. The degree of paralysis varies considerably from day to day. The paralyzed muscles are neither atrophied nor hypertrophied. They are, however, in a constant hypertonic state. There is marked exaggeration of the knee-jerks. Ankle clonus is present. The biceps and triceps reflexes of the upper extremities are marked also. The integument over the wasted districts is constantly covered with a profuse, clammy perspiration, and at times a papular rash appears, but usually only lasts a few hours. There is no atrophy of any of the facial muscles. There is no history of heredity. The case is evidently myelopathic in origin. It is a well-marked example of Charcot's "Amyotrophic Lateral Sclerosis."

Pathological Specimens.—(1) *Potts' Curvature.*—DR. JOHNSTON exhibited for Dr. Roddick a case of very extensive caries of the vertebræ with psoas abscesses. The caries involved the bodies of all the dorsal vertebræ and a large retro-thoracic abscess had formed in consequence, but without giving rise to any symptoms. The bodies of the last dorsal and first and second lumbar vertebræ were completely destroyed, causing a marked angular curvature. The psoas abscesses were perfectly symmetrical; passing in front of the psoas tendon below Poupart's ligament, they had in each case passed backward and inward, reaching to the fold of the buttock near the lesser trochanters. On the left side the abscess had passed down to the popliteal space when it was opened by Dr. Roddick; Dr. Bell had subsequently opened it above in the left gluteal region. There was no tuberculosis anywhere, and the walls of the abscess showed no tubercles. The pus contained no tubercle bacilli.

(2) *General Tuberculosis.*—DR. JOHNSTON showed another case of vertebral disease, where the bodies of the second and third lumbar vertebræ were infiltrated with extensive caseous areas. A small tuberculous abscess had formed in the right side, at the level of the third lumbar body. This had involved a small vein opening into the vena cava inferior. There was acute miliary tuberculosis of both lungs, which had caused his death. The patient had been under Dr. Ross with symptoms of deep-seated pain referred to the right sacro-iliac articulations.

Nephrotomy.—DR. SHEPHERD related a case of nephrotomy for hydro-nephrosis which was followed by death in two days. The following is the history of the case: C. W., aged 66, a tall, thin man, who had always been healthy, though there was a tuberculous family history, was suddenly seized some two years before with acute pain in the left renal region, which passed down towards the bladder. It was relieved by opiates, and afterwards for a time he felt fairly well. He had a second similar attack of severe pain a month or two afterwards. After this he began to urinate more frequently, and occasionally the urine was bloody. He, however, attended to his business and was in fairly good health. About a year ago he noticed that his urine was thickish, and that he made it more frequently. This was benefited by treatment, though up to four weeks ago, when he had to take to his bed, he was continually growing weaker and losing flesh. His urine was never free from sediment, and he had occasional attacks of painful and frequent micturition. He had a chill some time in October and took to his bed; his micturition now became more painful, pain greatest at point of penis, and the deposit in his urine was increased in amount. His urine was still occasionally bloody. Dr. Shepherd first saw him in December; he was then in a weak condition, passing his urine painfully and frequently. There was a large amount of pus in urine; nearly one-sixth of whole amount passed (45 oz.) daily was pus. Urine perfectly sweet; specific gravity 1010, alkaline and containing a slight amount of albumen. He also complained of severe and continuous pain in his bladder. On examination, the bladder was found to give no evidence of stone, but patient had a moderately large prostate. On examining the region of the kidney, pressure below the last rib on right side gave rise to severe pain, and there was a distinct fulness to be felt there. This fulness and pain on pressure did not exist on the left side. Under ether, a tumor could be made out in the region of the right kidney. This was aspirated and some three or four ounces of clear fluid drawn off, which had no urinous smell, but on chemical examination proved to be almost pure urine. No pus was evacuated. After each examination patient passed large

quantities of bloody urine. The patient's condition not improving, and, in fact, growing much worse, operation was suggested. For some time Dr. Shepherd was in doubt as to which kidney was manufacturing the pus, the right kidney, on aspiration, giving clear fluid and the history of renal colic being on left side. However, as the pain and tumor existed in the right, it was determined to explore this side. This was done on Jan'y 22nd, Drs. Fenwick and Ross assisting. There was considerable fat, but the kidney was easily reached, and on examination the pelvis and calyces were found much distended with fluid; about six ounces was evacuated. From the condition of the kidney it was pretty certain that the large amount of pus did not come from this kidney and only clear fluid was evacuated on incision. The exploration failed to detect any pockets of pus. It was supposed that the wrong kidney had been cut down upon, and that the suppurative disease existed in the left. The wound was sutured and a large drain placed in it. The patient recovered well from the operation, but secreted no more urine, and died uræmic two days later.

Autopsy by Dr. W. G. Johnston twelve hours after death.—A very strong urinous ammoniacal odor noticed about the body, which was well nourished. In abdomen the kidneys did not project below the edge of the floating ribs. A rubber drainage tube in a wound in left lumbar region. Pelvis of left kidney moderately distended. Ureters on each side distended to about size of forefinger. Both kidneys showed marked hydronephrosis, with dilated pelves and calices, papillæ flattened. Renal substance atrophied and microscopically showed extensive cirrhotic changes, but was free from any appearance of acute inflammation, and the collecting tubules are not dilated. No calculi present. The pelves and ureters contained opaque purulent-looking fluid, but the mucosa nowhere eroded. Bladder contained about 10 oz. dark urine, was sacculated behind prostate gland, the middle lobe of which was greatly enlarged. The lateral lobes also slightly enlarged, but soft. Muscular coat of bladder greatly thickened, and trabeculæ prominent. The mucosa, on the contrary, very thin and atrophic, nowhere ulcerated, but showed deep slaty pigmentation.

DR. JOHNSTON thought the most interesting symptom was the presence of what appeared to be pus in the urine ; that is to say, a dense cellular deposit not accompanied by much mucus. This was always laid down as a sign by which suppuration in the kidney can be distinguished from catarrh of the bladder, and in this case had materially influenced the diagnosis. Here, however, there was no true pus present in the sense of a product of suppuration accompanied by necrosis. The anomaly was probably explained by the condition of the bladder mucosa, which showed a marked atrophy, while in most cases of cystitis following prostatic obstruction he had found the bladder mucosa greatly thickened and hypertrophic. This atrophic mucous membrane being unable to secrete any considerable amount of mucin, had made the appearance of the urinary deposit very misleading.

A Case of Diabetes.—DR. KENNEDY reported a case of diabetes in which a daily analysis of the urine had been made from Oct. 1886 for ten months. The patient was a female aged 28 years. The tables recorded quantity of urine, specific gravity, amount of sugar, urea, etc, including drink and food taken. At commencement of treatment the average daily amount of sugar was seven ounces. Codeia was first given with benefit, but lost its effect during second month, at which time the patient's condition became serious. On Dec. 1st, 1886, nitro-glycerine was given and continued with slight intermission for five months ; its action was markedly beneficial, as the patient continued to improve. So far as Dr. Kennedy was aware, this was the first time the remedy had been used in this disease. Jambol was given for a short time as an additional remedy, but not continued. Iron, strychnine, etc., was given for the anæmia, etc. A strict diabetic diet was followed with saccharine as a sweetening agent. In July 1887 no medicine was given, as the patient was almost well, and during the last week of this month the condition was normal, with no sugar. At the present time the patient is perfectly well. During the ten months the patient passed 52 lbs. of sugar.

Discussion.—DR. RUTTAN said that this case deserved more than a passing notice. There was probably not another case

recorded in which such an accurate and thorough analysis of the urine had been made. A daily quantitative estimation of the most important constituents of a delicate patient's urine extending over a period of ten months should reveal something of interest. It is important to note the fact that whenever there was a sudden decrease in the percentage of sugar there was an increase in the acetone group of excreta, and this was accompanied with the most alarming symptoms. Whether there is any relation between quantities of sugar and acetylacetic acid excreted has not been determined, but there are few who believe that the symptoms of diabetes are due to the sugar or to the want of proper assimilation of carbohydrates. If these acetone products do not of themselves produce the coma and toxic symptoms of diabetes, their appearance during and proceding coma is a remarkably common coincidence. In a recent case of sudden diabetic coma, the urine examined for Dr. Howard looked only a trifle pale, had no acetone odor when fresh, specific gravity 1020, only 2.7 per cent. of sugar, but was highly acid, acidity $=1$ to $\frac{27}{100}$ of a grain of oxalic acid per ounce, and was loaded with acetylacetic acid. In another case, a life insurance candidate recently examined, no sugar reaction was obtained by Fehlings' solution, but the acetone reaction was marked; specific gravity was normal. Two days later this patient's urine gave 3 per cent. of sugar and no acetone; specific gravity 1028. The specific gravity of diabetic urine is no index to the quantity of sugar, nor, indeed, if acetone be found, is it in relation to the total solids, as the acetone and alcohol resulting from the decomposition of acetylacetic ether would greatly lower the specific gravity. No work can be done of much clinical interest regarding acetonæmia or diacetonæmia till a more convenient method of estimating acetone be found than that recommended by Salkowski.

Dr. Mills wished to express his appreciation of these tables. Analyses of the urine so accurate, complete, and continued daily over so long a period were, he believed, without a parallel. It would be difficult to say what their value might be ten years hence, when the subject of diabetes was better understood. The physiological experiment of puncturing the floor of the fourth

ventricle was unsatisfactory, and must necessarily be so if we were correct in crowding so many "centres" into this region. Vaso-motor effects follow it in time, but we are learning more and more that nutrition is less dependent on blood-pressure than has been supposed. From the results of the urinary analyses in this case and others, it was clear that in diabetes the nutritive processes were profoundly disturbed. Why should we suppose that sugar production was dependent on only one set of chemical reactions in the body when it is now known that sugar or allied bodies can be made in the laboratory by a variety of processes, even a variety of syntheses? May not diabetes originate in aberrant metabolism in different organs? It is impossible, at all events, to have for any length of time one colony of cells (organ) disordered without widespread evil in the economy. Should not diabetes be regarded as a complication of disorders starting either as a more or less general disturbance of the nutritive process? Or, if we confine the term to that derangement of one organ which leads to excessive production of sugar, regard it as the starting point only instead of fixing the whole attention upon this and treating the disease as if it consisted wholly in derangement of one set of processes resulting in excess of sugar. It looks as if the chemists, physiologists and pathologists must unite in the investigation before the present partial and unsatisfactory views of the actual condition would give place to broader and truer ones.

Dr. Buller said that the color rings observed by the patient when looking at a light were probably due to a slight conjunctivitis, and were not characteristic of the disease.

Stated Meeting, February 17th, 1888.

Jas. Perrigo, M.D., President, in the Chair.

Extra-Uterine Fœtation (Tubal); Rupture; Abdominal Section; Recovery.—Dr. Wm. Gardner related the case, while Dr. W. G. Johnston exhibited the specimens—a degenerated fœtus and a chorionic villi—under the microscope. The patient, aged 29, was married last July. She had an early miscarriage

in October, for which she was attended by Dr. A. A. Browne of the city. After this she menstruated twice, the last time on the 2nd December last. Towards the end of the month she had morning sickness for a few days. During the early part of January a colored bloody vaginal discharge appeared, lasting nearly a fortnight. About the middle of January she was seized with violent pelvic and abdominal pain, with most alarming collapse, during which for many hours she was almost pulseless. From this in a few days she partially recovered, but soon there were recurrences of pain, faintness and symptoms of peritonitis. Her physicians, Drs. Browne and George Ross, recognizing the nature of the case, requested Dr. Gardner's opinion, and after examination he fully concurred in their diagnosis of ruptured extra-uterine fœtation. The next day, the symptoms continuing alarming, it was decided to open the abdomen. The right fallopian tube was found expanded into a friable mass, in which the fœtus was found imbedded in clots. On attempting to ligature this it tore away, so that it was not tied. The pelves was full of clots. These were scooped out, and then the cavity was washed out with a forcible stream of water from Lawson Tait's large blunt trocar carried to the dependent parts. A drainage-tube was then inserted and left for eight days. For the first nine days the course of the case was perfectly favorable. Then evidences of cystitis appeared, and have continued to be rather severe and attended with some fever. There seems no reason to doubt that recovery will ultimately be complete and permanent. Dr. Gardner remarked that such a case as this well illustrates the triumphs of the modern extensions of abdominal surgery, and for this particular one we owe all that is worth knowing to Lawson Tait, whose remarkable results in a long series of such cases are now well known. The diagnosis will not always be easy, but given sufficiently alarming symptoms the abdomen must be opened and the condition found dealt with as may be necessary; and it is a great satisfaction to know that in the hands of competent surgeons the operation itself cannot be said to be a source of danger.

Discussion.—Dr. Johnston said that in examining the speci-

men sent, amongst a large amount of blood-clot he had found a small, firm, fleshy mass 1¼ inches long, which appeared to be a thick-walled sac torn open. In one spot a typical area of chorinic villi was seen. Within the sac, attached to one wall, was a small mass covered with a smooth membrane (amnion). This appeared to be a blighted and degenerated fœtus, of which only the eye spot and the intestines were distinctly recognizable.

A microscopic specimen of the villi was exhibited, showing this structure to be quite typical.

Dr. Geo. Ross had been called to see the patient, and had found her after the attack almost pulseless, in extreme pain, temperature subnormal, and very pallid. He had strong suspicion of hemorrhage in the peritoneum and peritoneal inflammation. There was a reasonable expectation of the patient rallying from that attack, but the danger of recurrence was very great. Dr. Browne had early arrived at a diagnosis from the symptoms of tubal pregnancy. He heartily congratulated Dr. Gardner on the very successful result in this case, and said that as far as he knew it was the only case in Canada of early diagnosis of extra-uterine pregnancy and successful operation for the same by abdominal section.

Dr. Shepherd asked if opinion was not now in favor of the belief that all intra-peritoneal pelvic hæmatocele were due to ruptured tubal pregnancy.

Dr. Gardner, in reply, stated that they were not always due to extra-uterine pregnancy. He had operated for a pelvic hæmatocele, which was part of a general condition. They may also be caused by rupture of varicose veins, etc. Mr. Lawson Tait treats all large hemorrhages in married females as if due to extra-uterine pregnancy. Electricity would not have availed here, and can only be of use while there is life in the fœtus.

Carcinoma of the Stomach and Liver.—Dr. George Ross exhibited the stomach and a portion of the liver from the case, and related the following history: The patient, aged 55, had been under observation for four months, and had never had any gastric symptoms, but suffered from profuse diarrhœa and had a haggard appearance. Examination had shown a hard mass in

the left hypochondrium, which moved with the diaphragm ; the liver was not enlarged. There was no pain after eating and no vomiting. The diarrhœa was controlled and the patient ate and drank well, but had continuous pain in the epigastrium. The hard nodule in the left hypochondrium rapidly increased in size, and it looked as if the left lobe of the liver was the seat of the tumor, but its origin was always doubtful. Later the patient developed albuminuria, and amyloid casts were found in the urine. The patient gradually sank. Dr. Johnston found at the autopsy a large fungating cancerous ulcer occupying an area nearly four inches in diameter on anterior surface of the lesser curvature of the stomach. Neither the pyloric nor œsophageal opening was obstructed. The base was deeply fissured, and had extended into the inferior surface of left lobe of liver to nearly one inch of the superior surface. No secondary deposit. Nature of growth scirrhus. Amyloid disease of glands in portal fissure, stomach and intestines marked, and the kidneys slight ; spleen amyloid, but not enlarged.

Calculous Nephritis.—Dr. Johnston presented from Dr. Bower of Waddington, New York, a specimen of calculous nephritis where the entire renal substance was destroyed, the kidney consisting of a series of suppurating sacs, each containing a calculus of uric acid with phosphatic incrustation ; a large calculus blocking orifice of the ureter. The other kidney had been greatly shrunken and disintegrated apparently from pyelitis, but contained no calculi. The symptoms were persistent pyuria, and towards the close uræmic coma.

Peritoneal Cancer.—Dr. Bower also exhibited a specimen of secondary carcinoma of the peritoneum. The growths, whose microscopical characters were those of encephaloid cancer, were all situated beneath the peritoneal coat of the intestines, soft and vascular, ranging in size from a pea to an egg. The seat of primary growth was uncertain.

Pharmacology of Arsenic.—Dr. Stewart read a paper on this subject, which appeared in the April number of the Journal.

Discussion.—Dr. Bell could recall at least three post-mortems he had seen in the Montreal General Hospital while house

surgeon, and in each case there were well marked inflammatory lesions. He was surprised to hear from Dr. Stewart that in none of his cases were there any inflammatory lesions.

Dr. Reed could remember one case of poisoning from Paris green in which there was no gastro-enteritis.

Dr. McGannon of Brockville referred to a case of arsenical poisoning where the poison, Paris green, had been found in the stools and vomit. Patient died in seven hours. No post-mortem was allowed.

Dr. Shepherd said that if Dr. Stewart's statement was accepted, viz., that arsenic did not kill by the violence of its inflammatory action, but by the lowered blood-pressure, then we must change our method of treatment of such cases. The point was a new one to him, as he thought that in all cases death was due to inflammatory action. He still had confidence in the use of arsenic in certain diseases of the skin, viz., psoriasis and bullous eruptions, and in these cases had used it extensively, but had never seen the erythema or staining produced ; this might be due to the difficulty of detecting erythema or staining when chrysophanic acid was employed.

Selections.

The Therapeutics of Headache —As long as headache or "megrim" (hemicrania) was considered to be an affection of the sympathetic, its treatment was naturally a treatment of that nerve, principally by means of electro-therapeutics. However, the wished-for results that had been based on this theory were never realized. Erb denies the theory that megrim is a "neurosis of the sympathicus." Eulenburg, Moebius, and many others also are of a like opinion. Therapeutically salicylic acid, antipyrin, and other remedies have been used with success in attacks of headache, but at the best they only serve to ease the pain or lessen its intensity. A vast number of theories and "specifics" have been brought forward, the value of which has never been such as could be wished for.

Recently in France good results were reported to have fol-

lowed the practice of so-called "vibration," which was done either with the fingers of the physician or by means of a quickly vibrating instrument. Eulenburg was treating a lady for obesity and slight fatty degeneration of the heart by means of Oertel's method. The patient recovered, and at the same time was found to be cured from headache of the severest type, from which she had long been a sufferer. Generally it is, however, impossible to apply Oertel's method to all sufferers from headache. But there are other methods of treatment which may be practiced on any patient, viz., hydro-therapeutics and balneo-therapeutics. It has been well known for some time that a careful course of bathing often has a most beneficial effect on headaches. Dr. Pelizacus, in an article which appeared in the *Deutsche Med. Zeitung*, 1887, No. 66, strongly advocates the "water-cure in cases of megrim." In many cases he claims to have effected a complete cure in six to eight weeks. Any minute directions cannot be given, as the treatment is not one of any certain disease, but is merely a general treatment of the patient. In private practice the mode of procedure must be as simple as possible, so as to avoid the possibility of technical mistakes. As important as the bath itself is the treatment before and after the bath. Before bathing, and especially before taking a cool bath, the patient should carefully abstain from any fatiguing mental or physical work; should also never bathe when coming from a meal; must not be cold or chilly. After a warm bath rest is necessary, and after a cold one the patient should either walk until tired or, if that be impracticable, should practice gymnastics or other bodily movements. In one case mentioned by Dr. Pelizacus the treatment consisted of a daily half-bath of 23°R., which temperature was gradually reduced to 18°R. The patient remained in the bath from two to four minutes. In the afternoon a cool hip-bath was given, the temperature of which was from 20° to 25°R., which lasted from ten to fifteen minutes. After a few days the patient took a sponge bath in the mornings. This treatment was accompanied with nourishing food and plenty of out-door exercise. During the six weeks of treatment the patient had slight attacks of headache three times in the evening,

but easily slept them off and awoke in a few hours perfectly free from pain. After four weeks the morning sponge-bath was discontinued, and the patient was wrapped in wet sheets for an hour to an hour and a half, after which he was rubbed down with cold water. In six weeks a complete cure had been effected, and when the patient was last heard from, which was two years and a half after the treatment, there had still been no return of the headache.—*Therapeutic Gazette.*

The Feeding of Sick Children.—Professor Jacobi of New York contributes to the *Archives of Pediatrics*, Vol. V, No. 1, a very exhaustive article. He points out that from the very first month of life a distinct diastatic effect is produced by the oral secretion, and that it increases every month. Moreover, this effect persists in the stomach for from half an hour to two hours; but it ceases altogether as soon as hydrochloric acid has begun to be secreted. Lactic or other organic acid alone is secreted with the pepsin in the stomach for the first half hour or more, and in debilitated subjects for the greater part or the whole of the digestive period. The diastatic power of the pancreas begins with the fourth week only and remains feeble up to the end of the first year.

To increase the secretion of pepsin and hydrochloric acid, which are deficient in anæmia, convalescence, and more particularly in fevers, large quantities of water are required, and peptones are not absorbed unless greatly diluted. Therefore, not only should infant's food be mixed plentifully with water, but water should be given alone, occasionally, more especially in the summer time. Water is indicated in diarrhœa, general inanition, perspiration, and feverish diseases; where it is not retained, enemata should be employed. Further, where metamorphosis is slow, water increases the elimination of urea and carbonic acid; when the urine is concentrated, water protects the kidneys from undue irritation; it liquefies the mucus in laryngitis and bronchitis, and removes the dryness of the bowels in constipation.

On the other hand, in some forms of acute gastro-enteritis, where vomiting and diarrhœa are excessive, the only salvation

lies in total abstinence for from four to ten hours. Sugar must be added to an infant's food because human milk contains a larger proportion than that of either cow or ass; but cane sugar is preferable to milk sugar, because it is much less rapidly converted into lactic acid.

Milk should never be given to well or sick without the addition of table salt. This, amongst other things, prevents the solid coagulation of milk. Fatty substances must be given with caution. The white specks in babies' motions are nearly always composed of fat and epithelium, and the administration of cream or cod-liver oil is very injurious to such cases.

The mixed milk of a dairy is preferable to that of one cow; it must be boiled before being used. Condensed milk is not uniform, and its use for that and other reaasons is precarious. Goat's milk contains too much casein and fat, besides being otherwise incongruous. Skimmed milk, prepared in the usual slow way, is objectionable, because acid. No infant's food should contain more than one per cent. of casein. The best way to dilute cow's milk and at the same time render it less liable to coagulate in large lumps, is to add a decoction of a cereal—barley, when there is a tendency to diarrhœa; oatmeal, when the tendency is to constipation. The newly-born should have boiled milk (sugared and salted) mixed with four or fives times its quantity of whole-barley water; at the age of six months they should be of equal parts. Gum arabic and gelatine may be used in a similar manner. These are not only diluents, but, under the influence of hydrochloric acid, nutrients. Beef-tea, or, when there is diarrhœa, mutton broth, is advisable towards the end of the first year or much earlier than this in rickets, undue adiposity, and retarded teething. Peptonized beef-tea, such as Rudisch's, may be mixed with broth. Scraped beef is easily digested, but is open to the objection that tænia mediocanellata may be caused by it. The white of an egg beaten up with six ounces of water and a little salt is a good temporary expedient. Cow's milk is rendered more digestible for those infants or adults who cannot tolerate it in its ordinary condition by mixing half a teaspoonful of dilute hydrochloric acid with a *pint of* water and a quart of milk and then boiling it.

Alcohol is contra-indicated in meningitis, acute cardiac ailments, gastro-enteritis, peritonitis, and acute dysentery. It is stimulant, nutritive, antipyretic and antiseptic. The amount necessary to reduce the temperature is that comprised in about three ounces of whiskey or brandy. It must always be diluted either with water or with properly prepared milk. "Whoever is not afraid of giving six ounces of whiskey daily to a child when one or two fail, or ten or twelve when six fail, will soon convince himself of its power for good." Whiskey is, as a rule, preferable to other stimulants; the ether of wines neutralizes the antipyretic effect of the alcohol, and the fusel oil its stimulating action.—*Medical Age.*

Surgical Treatment of Acute Intestinal Obstruction.—An interesting discussion upon acute intestinal obstruction, with especial reference to its surgical treatment, took place at the annual meeting of the New York State Medical Society, held at Albany on the 8th of February, and it will not be unprofitable to review some of the opinions expressed.

The causes and symptoms of all the various forms were very carefully enumerated by Dr. Lewis A. Stimson, but the only diagnostic signs which could be pointed out were the history of previous peritonitis in obstruction by bands and adhesions; the history of previous attacks of biliary colic in obstruction by gall-stones; the slow development of stricture and neoplasms of the bowel and the occasional presence of a tumor in the abdomen in the latter cases; and the subacute course, the passage of blood and mucus from the anus, with tenesmus, and the tumor to be felt in the abdomen and rectum in cases of intussusception. To these diagnostic signs must be added the observation of Dr. A. Jacobi, that in fæcal impaction the thermometer, placed in the rectum, would indicate a slight elevation of temperature, due to colitis, local peritonitis, and septic absorption—an elevation which was absent during the first two or three days of obstruction from other causes.

Dr. Stimson emphasized the fact that these distinctive symp-

toms were frequently absent, and that even when present they were not altogether reliable. For instance, acute obstruction is quite often the first marked sign of cancer or stricture, as was shown in one of his cases, in which there had been no symptoms from a very tight stricture of the transverse colon, until it was blocked by an apple-seed.

Spontaneous recovery was possible only in intussusception, a stricture blocked by some foreign body, and perhaps in cases of impacted gall-stone. Even in these cases spontaneous recovery was so rare that if the surgeon could exclude paralysis of the intestine and impacted fæces as the cause of the obstruction in any case, it was clearly his duty to attempt to relieve the patient by operative measures. But the difficulty lay precisely at this point, to exclude paralysis and impacted fæces at a sufficiently early period in the case. This sentiment was echoed by all the speakers. And a very practical statement of the dilemma was made by a gentleman who styled himself a country doctor, who was anxious to learn how to *know* when the cause of obstruction was such as to require operation, for the doctor in the country might have to call a surgeon twenty or even one hundred miles to see the patient, and could not rest satisfied with mere guessing.

Dr. A. G. Gerster thought that the failure to make an early diagnosis was often due to the fact that it was too much the habit of the physician to consider these cases when first seen as examples of ordinary colic, and to omit a thorough physical examination of the abdomen at that time, thus losing the favorable moment before tympanites rendered such an examination impossible.

It must be confessed, however, that none of those who took part in the discussion added anything to our powers of diagnosis. In fact, if anything marked the numerous cases related by Dr. William C. Wey, Dr. Simmons, and others, to prove that apparently desperate cases, suffering from symptoms of collapse and fæcal vomiting, may recover, it was the close resemblance between them and the fatal cases of intestinal obstruction. But the statement of Dr. Robert F. Weir is worthy of note. That valuable time was often lost in attempting to determine the exact

cause and site of the obstruction, and that the point to be decided in these cases was not where and what the obstruction was, but whether there really was an acute obstruction of such a nature as to require relief by operation.

In regard to the recovery of desperate cases without operation, the same speaker made the pertinent remark that while such cases were known to all, what he desired to learn was the relative proportion which they bore to the desperate cases which terminated fatally, for in these same desperate cases the surgeon could probably save nearly thirty per cent., and it was important to discover what proportion could recover without his assistance, in order to decide upon the relative worth of medical and surgical treatment. If the number of cases treated by early operation were increased, the percentage of mortality would be very much reduced. Therefore, even if some cases which might have recovered spontaneously were submitted to operation, probably a larger proportion of all the cases of intestinal obstruction would be saved than with the present custom of delaying operation until there is no hope of spontaneous recovery.

Dr. Weir also remarked that with every case in which the surgeon performed laparotomy, and found a volvulus, a band, or some other cause of obstruction which could not be relieved in any other way, he felt encouraged to operate upon his next case without waiting until the symptoms were so marked and the patient in such a miserable condition as to place the diagnosis beyond all shadow of doubt. He knew of no case in which laparotomy had been performed, and fæcal impaction found as the sole cause of obstruction, and thought such an error unlikely to occur, in spite of the occasional cases in which laparotomy has been performed and no obstruction found. These two facts certainly warrant Dr. Weir's feeling that it was time for the physician to know of the growing confidence of the surgeon in the necessity for operative treatment in these cases, and to be led by the influence of that faith to bring the cases to the surgeon before every chance of success had been squandered by delay.

As Dr. A. Vander Veer remarked, the need of the hour is a

series of cases of successful, early operations, in order that the physicians may be encouraged to refer their cases of acute intestinal obstruction to the surgeon before it is too late.

The statement made by Dr. Weir, that if severe pain, vomiting, and constipation had lasted for forty-eight hours, it is necessary to operate at once, was so qualified that it could not be taken literally, but was evidently intended to stimulate the discussion, and to urge the necessity for a very early operation. A similar statement was made with a like purpose in view by Dr. William T. Bull, in reporting some cases of laparotomy at the February meeting of the Practitioners' Society of New York. It must also be remembered that Treves has already advised operation, in cases of intussusception, in the first forty-eight, or if possible in the first twenty-four hours after the development of marked symptoms. The statistics presented in this discussion by the writers show the necessity for an early operation, but after the first three days, for which the mortality was respectively 62 per cent., 70 per cent. and 73 per cent., there is no regular variation exhibited by the death-rate, probably because the symptoms in the cases which were postponed for a long time were not so severe as in the cases which were operated upon during the first two or three days. It is evidently impossible to place any exact time limit before which the operation must be performed in order to secure success, for the severity of the symptoms and the necessity for haste vary so much in different cases.

The indications laid down by Dr. Roswell Park as guides in the choice between laparotomy and enterostomy are not entirely free from objections, as was probably felt by Dr. Park himself, for he expressly stated that he thought the question was not yet ripe for decision. He favored laparotomy when the diagnosis of a cause which could be removed was certain, and when suppurative peritonitis was present, for the peritonitis could best be treated by laparotomy. But if the cause of obstruction was a malignant tumor of the intestine, if the tympanites was extreme, and if the cause of obstruction could not be determined, enterostomy was to be preferred. These are very nearly the rules propounded by Verneuil in the discussion upon intestinal obstruc-

tion in the Société de Chirurgie of Paris last Spring. Now, it is unanimously agreed that, with the exception of intussusception, stricture, and neoplasm of the intestine, the diagnosis of the cause of obstruction is impossible, consequently the adoption of such rules as those just quoted means a restriction of laparotomy to the exceptional cases.

These rules also leave out of consideration the chief factor to be regarded in making our decision—the condition of the patient at the time. In the introduction to his paper upon the technique of laparotomy for intestinal obstruction, Dr. Weir appears to have indicated the correct answer to this question. He says that, although laparotomy be scientifically the only proper method of treatment for acute intestinal obstruction, it often promptly terminates the life of the patient, because of the profound shock which accompanies this condition ; but that enterostomy, although in itself only palliative, sometimes yields brilliant results, and at least does not add to the shock which is already present.

It is the belief of the writer that when the patients are in the state of exhaustion in which most of them now are when placed in the hands of the surgeon, enterostomy, which may even be performed without a general anæsthetic, is the only justifiable operation. I am confident, also, that we have no idea at present as to what the recent results of enterostomy for acute intestinal obstruction really are, for the statistics of Treves probably do not fairly present them. In the future these cases will be brought to the surgeon at an earlier period, and the better condition of the patient will justify the performance of laparotomy as frequently then as now, while the results obtained will be far better than at present, although it is not probable that the sanguine views of Greig Smith will be realized with a reduction of the mortality to " about fifteen per cent."

In the opinion of Dr. Weir, a very long incision should be made in performing laparotomy for intestinal obstruction. Although he would not consider it wise to blindly follow in every case the proposal of Kümmel, to make an incision from the ensiform cartilage to the pubes, he looked upon it as a distinct advance, because it recognized the necessity for making the

operation as brief as possible, while the large incision did not materially increase the dangers of the operation, and even facilitated the reduction of the distended intestine after the obstruction had been found and relieved. The reality of this gain of time is shown by Kümmel's statement that he had performed the operation in twenty minutes, whereas everyone knows that these operations generally require an hour, and not infrequently twice that time. The necessity for a short operation is well shown by the cases collected by the writer, which give a mortality of 55.7 per cent. in 190 cases in which the operative interference was limited to relieving the obstruction, without wounding the bowel; while it rose to 73.3 per cent., in 15 cases in which it was necessary to establish an artificial anus after the obstruction had been removed; and to 83.3 per cent. in 48 cases in which the gut had to be sutured. In all these cases the true danger lay in the length of the operation, not in the yielding of the sutures, for death was caused by sepsis in only 10 per cent. of the fatal cases.

Chloroform was strongly recommended by Dr. Weir as the anæsthetic most suitable for these cases—a recommendation all the more valuable, as it came from one who employs ether for all his general surgical work. Ether seemed to him to cause more shock than chloroform, and the subsequent bronchial irritation was very injurious. Dr. Gerster and others agreed in this opinion.

As to other methods of treatment, all united in condemning puncture of the gut, because there was great danger that the openings would fail to close, owing to the paralyzed condition of the wall of the bowel. Dr. Francis Bacon of New Haven related two cases of intussusception treated lately by him with success by inflation; but here, again, Dr. Park stated that in one case in which he had performed laparotomy he had found that previous attempts at reduction by inflation had caused a perforation of the gut, and this complication had resulted in the death of the patient.

Finally, the results of operative treatment were considered by the writer, who found a mortality of 68.4 per cent. in a collection of 339 cases. In the 232 fatal cases, the cause of death

was the poor condition of the patient in 103 cases, complications in 41, and failure to find or to relieve the obstruction in 30. The reports were incomplete in 13 cases. Of the remaining 45 cases, 13 died of shock, 3 from an unusually prolonged operation, 17 of sepsis which was probably due to the operation, and in 12 cases the cause of death could not be definitely ascertained.

The opinion of Dr. Jacobi, that laparotomy for intestinal obstruction should be classified with tracheotomy and herniotomy, and looked upon as one of the operations which every practitioner should be prepared to perform upon an emergency, when the assistance of an expert could not be procured, is certainly not to be accepted without important reservations. As Dr. Bacon remarked, the elaborate technique described by Dr. Weir gave the uninitiated some idea of the great difficulties to be overcome in these operations, and the complicated manœuvres which must be frequently resorted to. This alone should serve as a warning to those without experience in abdominal surgery, and certainly to those without any surgical training, not to undertake these very difficult operations rashly. While it is true that not a few of the successful operations have been performed by country physicians, with insufficient help, scanty towels, dirty water, and the most unpromising surroundings, no physician should neglect any precaution which tended to improve the chances of the patient, and he should at least allow him the advantage of the most skilful surgeon available. At the same time we may agree with Dr. Jacobi in so far that no physician should allow a patient to die, merely because he is lacking in courage to undertake an operation which he is really competent to perform.

As a substitute for the proposal so often made, that all cases threatened with acute intestinal obstruction should be handed over to the surgeon forthwith, a proposal which is probably too chimerical ever to be adopted, Dr. Weir made the very practical suggestion that in such cases a surgeon should be associated with the physician, a suggestion which deserves very serious consideration, for there is no malady where the double counsel is so necessary as in this perplexing and desperate condition.

On the whole the discussion was very encouraging; not that

it added much that was new to our store of facts, but because it showed the great interest felt in the subject, and with such eager observers some increase of knowledge may surely be expected before long. Certainly, the errors due to negligence and hesitation, altogether too frequent hitherto, even in cases in which there was no excuse for hesitation, will not occur in the future—at least in the State of New York.—*B. F. Curtis, Annals of Surgery*, May, 1888.

Medicomania.—It consists in a mania for medical and surgical curiosities, and even operations, which is said to prevail in Parisian society. The scenes of the dead-house, the dissecting-room, and surgical theatre, all matters of purely professional interest, have—thanks, no doubt, to a diseased realism in the world of fiction—become the spectacle of the hour, the twin diversion with social small talk. It is a singular and not very worthy feature of the present day that various matters of the most serious character are apt to be discussed in general conversation in the lightest vein. In some circles religion is no longer sacred. It is hardly remarkable, therefore, that pain, sickness, sorrow, and death are to some who have not known them no more than means of pleasure, nostrums for the cure of an idler's leisure. We have better hope of mankind than to believe that any such morbid flippancy will long escape its due censure at the hands of all true oxponents of good taste and right feeling.—*Lancet.*

Teaching Students to Think —It is often a subject of regret to teachers in our medical schools that the work of the first two years is so soon forgotten; a man who has passed his preliminary examinations frequently so far forgets his scientific subjects in six months as to be unable, when in the hospital wards, to give a description of the cerebral supply to parts of the body, the convolutions of the brain, and the cranial nerves, or the minute anatomy of the kidney and liver; still, such students may have dissected diligently, attended lectures, and read at night, but they have not learnt to think or

are not trained to think systematically and correctly. This defect is, we suspect, not entirely the fault of the students, but is also in part due to defects in teaching. When observing students under examination, both for university degrees and on the lower examinations, it has often been obvious that failure to pass the standard may depend upon inaccurate methods of thinking and speaking—or upon no previous thinking—quite as much as from ignorance of the subject matter. Observing the objects of study in the dissecting-room does not necessarily teach thinking; to observe is to receive impressions, thinking may or may not follow observing. We have no intention of suggesting formal teaching of the laws of thought in the form of logic, though this useful science used to be one of the extra subjects in the Arts examination of the Apothecaries' Society. It does, however, seem needful to call attention to the importance of educating students to think as well as to observe facts; the scientific subjects and the teaching of medicine afford plenty of scope for both. The student is generally interested in the application of scientific knowledge to practice, and to show him such connections early in his career stimulates thinking. The constant application of anatomy, physiology, chemistry, comparative anatomy, and the principles and facts of vegetable biology, to what is seen in patients, produces an expansion of the subjects of thought, and engenders habits of correct thinking. To follow well made analogies, and to answer questions which exercise the imagination in a scientific manner, as in describing the minute conditions of circulation and the cause of nerve-currents in reflex actions, nessitates correct thinking. A student will often say that he hears a systolic mitral *bruit*, and is satisfied with his achievement, without understanding that the sound heard suggests an hypothesis which requires to be fully worked out before he can know the condition of the patient. A man well trained, not only in observation but also in rapid and correct thinking, will get through much more good work in practice than one less thoughtful. Thought, preceding action, guides him rapidly to make the necessary observations in the case before him, till thinking becomes automatic, and his opinions

are rapidly formed upon brief observations, and what is ill termed " clinical instinct." In making these remarks we by no means wish to depreciate the necessity of thorough and systematic examination of all the organs as a matter of primary necessity.—*British Medical Journal.*

Curious Deformity in a Twin.—Dr. Charles H. Bedford, in the *Brit. Med. Journal*, gives the following particulars of this case :—

" I was called by a midwife to a patient who had been delivered of a well-delivered, eight months' infant three-quarters of an hour before my arrival. The patient, a 7-para, was found to have considerable hydramnios, and a second child was found presenting in the R.O.P. position. I ruptured the membranes, turned and expelled the child by suprapubic pressure. The single, large, placental mass was expressed, and was found to have the cord of the first child attached centrally ; that of the second was an ' insertio valamentosa.' This latter insertion, although not as a rule directly hindering the development of the fœtus, may affect its life : (1) from the fact that the branches of the umbilical vessels may be pressed on during labor ; or (2) from the circumstance that the membranes may rupture at a part over which one or more of these branches ramify, hence causing hemorrhage fatal to the fœtus. This insertion is frequent in multiple pregnancies.

" It is well known that hydramnios and deformities of the fœtus (and, curiously enough, often of the last born of the two) are frequently associated with twin pregnancies. In this case the second child was the subject of the following deformity : The right hand was articulated to the lower and outer surface of the radius, about one inch from its lower extremity, and the movement of this anomalous joint was good as regards flexion and extension, but lateral movements, as might be expected, were impossible. The radial and ulnar inferior extremities were pointed, and no articular surface was to be felt. The entire thumb was wanting, neither a rudiment of the first metacarpal nor any traces of the thenar eminence being present. No con-

tracture or paralysis of the radial group of muscles was discovered. The opposite limb was normal, and the child was well nourished, but smaller than the first. It died on the third day after its birth, and, as I was at the time from home, neither the cause nor mode of death was ascertainable further than that 'it gradually sank.' The probable cause was asthenia produced by hemorrhage induced by either of the accidents incidental to the velamentous insertion of the cord. No necropsy was permitted, which I much regret, as the arrangement of tendons, vessels, and articulations would have completed the record of a most singular deformity."

Novel Method of Applying Taxis.—Mr. G. Jameson, Resident Surgeon, Medical College Hospital, Calcutta, writes to the *British Medical Journal* as follows:—

"A few days ago a native presented himself at the dispensary of the hospital with a right large scrotal hernia, which had been down for some months. The man was placed on his back and the tumor manipulated. The coverings were fairly tense. Before attempting reduction I casually asked the patient if the tumor ever got smaller; he replied 'Yes,' and proceeded to give me a demonstration in taxis which I had not previously heard of, and which will probably be new to many readers of the *Journal*. Lifting up the tumor with his left hand, he placed his right thigh on his abdomen, then crossed it over to the left side, catching the tumor between the pubes and thigh, then applying pressure. The hernia disappeared with a gurgle and a snap before I had time to call the attention of the students to this novel procedure. The reduction was complete."

CANADA

Medical and Surgical Journal.

MONTREAL, MAY, 1888.

DISINFECTION OF THE HANDS.

An unusually important essay upon this subject has been recently published by Fürbringer, an abstract of which appears in the *Centralblatt für Gynäkologie*, No. 10, 1888. His investigations have been conducted with the object of determining the shortest possible time necessary for thorough disinfection of the hands, and the agent or method least injurious to them. As a test for the asepticism of the hands, Kümmell and Forster take the sterility of the space beneath the finger-nails. Fürbringer prefers the examination of the dirt beneath the nails (*nagelschmutz*) as being a more exact and certain test. His method is to remove with a sterilized instrument a particle of *nagelschmutz* after the hands have been disinfected, and imbed it in gelatine-culture: any colonies of bacteria which may develop are examined. Complete sterility was found only *once* in a large number of examinations after the ordinary method of disinfection, viz., some minutes washing and brushing with warm water and soap, and then rinsing with carbolic acid or sublimate solution. Incidentally he mentions an observation interesting and important, though at first sight somewhat startling, viz., that relatively good results were often obtained from *nagelschmutz* removed from hands previously immersed in highly septic matters (*e.g.*, post-mortem fluids), whereas relatively bad results were more frequent when apparently the hands had not come specially in contact with septic matters. He found the washing and brushing with soap and warm water to be a valuable mechanical aid to asepticism, because thereby fatty secretions are

removed and the skin prepared for the adhesion of the antiseptic. By removing small particles of *nagelschmutz* and immersing them in solutions of carbolic acid or corrosive sublimate, he demonstrated the extreme difficulty of removing and disinfecting these matters. He attributes this difficulty to slowness of absorption, owing to the tiny bubbles of air which surround them and to the fatty matters they contain. After numerous experiments with different agents, he found *alcohol* (80 per cent.) to be the best means of removing fatty matters and disinfecting the hands without injuring them. He accordingly gives alcohol the foremost place in his "complete antiseptic method," which is as follows:—

1. Mechanical cleansing of the nails and careful thorough washing of the hands with soap and warm water.
2. Brushing for one minute.
3. Washing in alcohol.
4. Rinsing for one minute in 3 per cent. carbolic or 1 to 2 per cent. sublimate solution.
5. Drying with a clean towel, and wiping carefully away any scrapings of the subungual space.

In sixteen examinations after the employment of this method, five colonies of bacteria were found once, six colonies once, and complete absence of colonies fourteen times. He determined the relative effect and importance of each agent by examining the culture results after the use of (1) soap and water only, (2) soap and alcohol, (3) soap, alcohol and sublimate, (4) soap and sublimate, (5) alcohol and sublimate.

The advantages he claims for his method are—

1. It gives an ideal and absolutely safe result.
2. It saves time (Kümmell's method takes 5 to 7 minutes and the result is uncertain).
3. It saves the hands.
4. Moderation in the use of sublimate.

KEPHIR AS AN INFANT FOOD.

In the current number of the *Archives of Pediatrics*, Dr. Longstreet Taylor of Cincinnati has an article on the value of

kephir as a food in the wasting diseases of childhood. He has had good results in cases of infantile atrophy and in cases of chronic diarrhœa, where the only nourishment was kephir. In infants under a month old he orders it diluted with one-third water, and in the first stage of fermentation. Children of a few months old are, after a few days, able to take readily the kephir that has undergone the complete fermentation.

In kephir fermentation, the thick, hard curd of the milk gives place to fine flakes, which presents a much greater surface to the solvent action of the gastric juice. The presence of lactic acid tends to prevent putrefaction, as well as also to directly aid digestion.

CALOMEL AS A DIURETIC.

Stintzwig reports that he has tested the diuretic action of calomel in twenty-five cases of dropsy due to different causes. In cases of cardiac dropsy he almost invariably found it to be of marked benefit, while in dropsies of hepatic and renal origin its action as a diuretic was slight indeed. He gave three grains (0.2) three times daily, and where there was a tendency to its bringing on diarrhœa he added small quantities of opium (one-tenth of a grain) to each dose. The increased diuresis usually began between the second and fourth day of the administration. He considers that the drug acts by stimulating the renal epithelium. If so, it is difficult to understand how it should fail in renal and hepatic dropsies and succeed in the cardiac dropsies. Agents that succeed in removing the latter form of dropsy act as far as we know at present through their influence on the blood pressure.

THE ADMINISTRATION OF COD LIVER OIL.

The well-recognized advantages of cod-liver oil over other fats in wasting diseases consists essentially in the comparative ease with which it is absorbed. Its fatty acids, without any influence of the pancreatic juice, become converted into soaps. Prof. Mering of Strassburg maintains that these advantages of cod-liver oil over other fats is due to the comparatively large amount

of free fatty acids contained in it. He says also that the reason why the dark brown varieties are so much better than the clear is owing to the large amount of free acid contained in the former. It is not the experience of physicians in America to find a dark oil acting better than a light-colored one. Most of our dark oils are made so by the addition of a little iodine. This is done to supply the demand for the dark.

Prof. Mering recommends the mixture of olive oil and oleic acid (5 to 6 per cent.) as being in many ways a very efficient means of correcting the taste and at the same time aiding the digestion and absorption of cod-liver oil. The name Lipanin is given to this mixture with cod-liver oil.

McGILL UNIVERSITY.

Annual Convocation of the Faculty of Medicine.

The fifty-fifth annual convocation of the Faculty of Medicine of McGill University for the conferring of degrees took place in the William Molson Hall, on the 31st of March, which was filled with students and friends of old McGill, a great number of the audience being ladies.

At three o'clock precisely the members of Convocation took their places on the platform, Chancellor Ferrier occupying the centre, and around him were grouped Sir William Dawson, Deans Johnson, Howard and Bovey, of the Arts, Medical and Science faculties respectively; George Cornish, LL.D.; J. C. Murray, LL.D.; P. J. Darey, LL.D.; Principals MacVicar, Barbour and Douglas; Drs. James Stewart, George Wilkins, R. L. MacDonnell, Francis Shepherd, George Ross, T. Wesley Mills, Wm. Sutherland, R. F. Ruttan, George Fenwick, and W. G. Johnston; Professors Moyse, Coussirat, Lafleur and McLeod; Rev. F. M. Dewey, and several Governors.

Dr. Howard, Dean of the Medical Faculty, read the class and prize lists as follows:—

Of the 239 students in the Faculty, 111 are from Ontario, 58 from Quebec, 20 from New Brunswick, 23 from Nova Scotia, 11 from Prince Edward Island, 3 from Newfoundland, 8 from

United States, 2 from Manitoba, and 1 each from British Columbia, West Indies and the Holy Land.

The following gentlemen, 49 in number, have passed their Primary Examination, which comprised the following subjects: Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Physiology, Histology and Botany:—

Addy, G. A. B .....St. John, N.B.
Aylen, W. W.....Aylmer, Q.
Bissett, C. P..River Bourgeois, N.S.
Bowes, E. J.....Ottawa, O.
Broderick, E. J...Fredericton, N.B.
Burritt, C, H., B.A.....Mitchell, O.
Clarke, J. W...Tatamagouche, N.S.
Clune, P. J.....Warkworth, O.
Coleman, A. H. .....Belleville, O.
Corbin, F. G.....Bedford, N.S.
Curtis, L.B.....Hartland, N.B.
Evans, D. J.....Montreal, Q.
Ellis, T. H.....Pembroke, O
Esson, A. C.....Halifax, N.S.
Esson, F. G.....Halifax, N.S.
Haldimand, A. W.....Montreal, Q.
Hamilton, H. D.....Montreal, Q.
Hayes, J., B.A.....Nelson, N.B.
Inksetter, W. E.....Copetown, O.
Irwin, W. T.....Pembroke, O.
Jento, C. P.....Brockville, O.
Kerr, N .....Holyrood, O.
Lang, M. W.....St. Mary's, O.
Liddell, G. L.....Cornwall, O.
Low, D .....Glen Buel, O.
Main, C. G.. ...Canterbury, N.B.
Murray, M. W....Beechwood, O.
Morris, O..... ....Pembroke, O.
McEwen, H ... .Carleton, O.
McDonald, M. S....Scotchtown, O.
McKee, G. L.....Coaticook, Q.
McKinnon, G.W.Sunnyside, P.E.I.
McKechnie, R. E..Winnipeg, Man.
McLelian, A. C..Indian Riv., P.E.I.
McManus, H. D..Fredericton, N.B.
Morphy, A. G., B.A....London, O.
Noble, C. T.....Sutton, O.
Robertson, W.....Chesterfield, O.
Reid, T. J.....Winnipeg, Man.
Ross, J.....Halifax, N.S.
Ross, H. R. .....Quebec, Q.
Smith, W. D.....Plantagenet, O.
Telfer, W. J.....Burgoyne, O.
Thompson, F. E.....Quebec, Q.
White, D. D.....Montreal, Q.
Wilson, W. A.....Derby, N B.
Wheeler, C. L., B.A..Montreal, Q.
Yorston, F. S.....Truro, N.B.

The following gentlemen, 53 in number, have fulfilled all the requirements to entitle them to the degree of M.D.C.M. from the University. In addition to the Primary subjects mentioned, they have passed a satisfactory examination, both written and oral, on the following subjects: Principles and Practice of Surgery, Theory and Practice of Medicine, Obstetrics and Diseases of Women and Children, Pharmacology and Therapeutics, Medical Jurisprudence, Pathology and Hygiene, and also Clinical Examinations in Medicine and Surgery conducted at the bedside in the hospital:—

Baer, D. C.....Summerfield, Ill.
Bell, J. H., B.A.....Montreal, Q.
Berry, R. P.....Lindsay, O.
Bradley, W. J., B.A....Ottawa, O.
Cameron, J. J.....Lancaster, O.
Carter, E. H.....Picton, O.
Castleman, A. L..East Williamsb'g.
Chalmers, W.W., B.A..Huntingdon.
Clouston, J. R.....Maple Hill, Q.
Conroy, C. P.....Martintown, O.
Desmond, F. J....Newcastle, N.B.
Dewar, C. P.....Ottawa, O.
Ferguson, W. D. T..Cumberland, O.
Fritz, H. D., B.A....St. John, N.B.
Goodwin, W. W...Baie Verte, N.B.
Gunne, N. D.....Seaforth, O.
Haentschel, C. W....Pembroke, O.
Hewitt, J.....Quebec, Q.
Hoare, C. W.....Strathroy, O.
Haldimand, A. W....Montreal, Q.
Hopkins, H. J.....Cookshire, Q.
Hubbard, O. H.....Gilsam, N.H.
Kennedy, J. H.....Lindsay, O.
Kenney, F. L., B.A..St. John, N.B.
Kincaid, R. M....Clarenceville, Q.
Kirkpatrick, E. A...Kentville, N.S.
Lang, W. M.....St. Mary's, O.
Metcalfe, F. T.....Buffalo, N.Y.
Moffatt, R. D. West Winchester, O.
Morrow, C.....Russell, O.
McDonell, A. E. J., B.A. Morrisburg
McDougall, D. S.....Russell, O.
McCarthy, J. G.....Sorel, Q.
McFarlane, M. A....Arnprior, O.
McKinnon, G. W..Sunnyside, P.E.I.
McLennan, D.....Dunvegan, O.
McMartin, D. R...Martintown, O.
Orr, A. E.....Cookshire, Q.
Orr, J. E.....Mount Elgin, O.
Park, P. C.....Durham, O.
Pearman, H. V.....Halifax, N.S.
Potts, J. M.....Belleville, O.
Quirk, E. L.....Aylmer, Q.
Robertson, A. G..... Iroquois, O.
Stewart, A. D.....Arundel, Q.
Stewart, W. G., B.A..Arundel, Q.
Springle, J. A.....Montreal, Q.
Thompson, J. H....Gananoque, Q.
Weagant, A. A.....Hosaic, O.
Westley, R. A.....Lancaster, O.
Wetmore, F. H..Bloomfield, N.B.
Woodruff, T. A..St. Catherines, O.
Wylde, C. F.....Halifax, N.S.
Young, H. E., B.A....Napanee, O.

The Holmes Gold Medal, for the best Examination in all the Branches comprised in the Medical Curriculum, is awarded to Neil D. Gunne of Seaforth, Ont.

The Prize for the best Examination in the Final Branches is awarded to William Grant Stewart of Arundel, Quebec.

The Prize for the best Examination in the Primary Branches is awarded to Robert Edward McKechnie of Winnipeg.

The Sutherland Gold Medal is awarded to Charles Peter Bissett of River Bourgeois, N.S.

The following gentlemen, arranged in order of merit, deserve honorable mention :

In the Primary Branches—C. P. Bissett, E. J. Bowes, E. G. Broderick, G. L. McKee, M. W. Murray, W. E. Inksetter, A. H. Coleman, T. H. Ellis, C. T. Noble, W. A. Wilson.

In the Final Branches—J. E. Orr, R. M. Kincaid, J. R. Springle, A. E. Orr, H. D. Fritz, H. V. Pearman, J. H. Thompson, H. E. Young, A. D. Stewart, D. McLennan, P. C. Park, O. H. Hubbard.

PROFESSOR'S PRIZES.

Botany—W. A. Farwell, Lennoxville, Q.

Anatomy—Demonstrator's Prizes: 2nd year, R. E. McKechnie; 1st year, E. A. Grafton.

Obstetrics—W. G. Stewart.

Pathology—N. D. Gunne.

The Registrar having administered the oath, the newly-made M.D.'s were capped by the Principal.

Dr. J. G. McCarthy read the valedictory. It was a model of advice, based on a large experience of the student world, and a fine tribute to the faithfulness of the professors, the thoroughness of the work, and the wisdom and skill of the physicians and surgeons. He spoke of the liberality of thought, the kindly feelings and sincere friendship among students, irrespective of nationality and creed, whilst they are striving for one end, to become worthy members of a great profession. He briefly sketched the history of McGill, and contrasted it at different stages of its development. Even the class of '88, the largest in its history, has seen it double its accommodotion, until now its diploma, from the standing of its staff and efficiency of the work, carries with it the recognition it deserves. Dealing with the lighter side of student life, he recounted fresh experiences, the piercing eye and determination of that janitor of janitors softening in the course of four years to a confidential chuckle, implying "You are now one of ourselves." He dwelt upon the personal weakness of the class for beards for the Spanish Cavilier, for a "speech or a song," and on behalf of the class he took a dignified leave in feeling terms of the professors and the University, and of the citizens, forgiving and forgetting the harsh criticisms occasionally passed on the medical student.

Dr. Geo. Wilkins, on behalf of the University, delivered the address to the students. (*See page* 577.)

Chancellor Ferrier then made a brief address, dwelling on the importance of the work of the Principal, who has devoted his life to the service of McGill, and the faithfulness of the staff during the forty-four years of the Chancellor's connection with the University.

Sir William Dawson expressed the feeling of the University, as a whole, towards the graduates. It was a credit to themselves and to Canada that they have sought out the best seat of learning, even where the work is hardest. He urged them to go on their way, with prayers and good wishes, and to be among those who go about doing good and making the world better. He announced that degrees in Law and Science would be conferred 28th April, and in Arts 30th April. The Arts convocation will be marked by two auspicious events—the graduating of the first class of ladies and the presence of the Governor-General.

Medical Items.

—The transactions of the International Medical Congress are promised for delivery early in May.

—A new medical college has been started in Detroit. It is called the Michigan College of Medicine and Surgery.

—Thomas Bryant, after a service of thirty-one years, has retired from being a surgeon to Guy's Hospital.

—The annual meeting of the American Medical Association will be held in Cincinnati on May 7th and following days.

—Dr. Edmond C. Loring, the well-known ophthalmologist, died suddenly in New York on Monday, April 23rd, aged 51 years.

—There was an attendance of 6,344 students at the University of Vienna during the past winter session. Of this number 3,123 were medical students.

—Papoma, a nutritious food prepared by that reliable firm, John Wyeth & Brother (Davis & Lawrence Co., Montreal), promises to fill an important place in the dietary of both children and adults where there is any gastro-intestinal disturbance.

—We regret to learn of the death of Dr. J. E. Brouse of Brockville. Dr. Brouse was a well-known and much-esteemed practitioner of that city. He was a graduate of McGill University, 1861. He resided for some time in British Columbia, but for the past seventeen years has practised in Brockville.

—Dr. H. N. Vineberg (medallist, McGill, '78)) has been appointed Instructor in Gynæcology at the Polyclinic of New York. He also, we understand, acts as assistant to Prof. Jacobi in the children's department of the Vanderbilt clinic. We trust these appointments will lay the foundation of still further success in the American metropolis.

—The New York Legislature has recently passed a bill incorporating an institute for the teaching of what foolish people call "Christian Science." In other words, they have passed a bill for the perpetuation of a shallow sham. Those who know anything about this so-called "Christian Science" know that it is inimical to both Christianity and science.

—Dr. Cornelius Rea Agnew of New York is dead. For many years he has occupied a prominent position as an ophthalmologist. He has made many valuable contributions to medical literature, among which were "A Contribution to the Surgery of Divergent Squint," "Trephining the Cornea to Remove a Foreign Body," and "Canthoplasty as a Remedy in Certain Diseases of the Eye."

Beautiful Chemical Preparation.—A snow-white mass of Caffeine, the active principle of coffee, (200 pounds and of great value,) is now on exhibition in the window of William R. Warner & Co., 1228 Market street. This beautiful crystallization represents ten tons of coffee, and is used as an ingredient in the preparation of Bromo Soda prescribed for the cure of headaches, migraene, nervousness, sea-sickness, &c.—*Philadelphia Inquirer*

CANADA

MEDICAL & SURGICAL JOURNAL

JUNE, 1888.

Original Communications.

APPOINTMENT OF DENTISTS TO HOSPITALS.

By W. Geo. Beers, L.D.S., Montreal.

Seventeen years ago, in an editorial in the June number of the *Canada Journal of Dental Science*, I discussed the question of creating subordinate dental departments in general hospitals, to afford gratuitous relief to the poor, as follows:

"It is not to be expected that these institutions can afford to pay the same attention to diseased dentures as to diseased eyes; or that the various ills to which the teeth are heir will receive a like conservative consideration with those of organs more vital. But it needs little argument to convince the commonest understanding of the importance of the teeth in the economy, and that proper treatment, whether applied to their salvation or their removal, involves no small modicum of personal comfort and general health. It is certain that the great number of teeth annually extracted in all general hospitals in Canada where a dentist is not attached, are not treated according to the golden rule or the first principles of dental surgery. Hospitals do the best they can with the existing arrangements, and make no pretensions or attempt to preserve decayed teeth. Patients are well aware that the only relief offered is extraction; and as they are generally bad diagnosticians of their own trouble, hundreds of teeth are extracted that might have easily been saved. And even for this *dernier resort* hospitals are deficient in means and appliances. The wonder is that serious accidents do not often occur. Unnecessary suffering is inflicted, and it is a very com-

mon occurrence that cases which a dentist could dispose of with the greatest ease are rendered not only formidable, but frequently dangerous, for the want of proper instruments. Medical students have come to regard the extraction of teeth as their legitimate department of surgery even before they have begun to learn 'surgery'; and it is a fact that they enter upon it without tuition, and are extended a license which would not be permitted for an instant with other diseases of the body, however slight."

The above extract is as applicable to-day as when it was written, and I need not amplify it. Suffice it to say, that at that time I brought the matter before the late Dr. Fraser and Mr. Wm. Lunn, with a proposal to appoint to the Montreal General Hospital six dentists, one for each working day. Dr. Robert A. Alloway had actually been rendering his services to the Hospital, as he has since to the Dispensary, in a full and generous manner, but there had been no appointment, and the voluntary work he assumed became a heavy, personal burden.

I may say here, that there is scarcely an hospital in Europe without a regularly appointed dentist. I visited the special institutions in Edinburgh, Glasgow, Birmingham, Manchester, Liverpool, Plymouth, London, Dublin, &c. The Dental Hospital of London is incorporated with the London School of Dental Surgery, has two consulting dentists, and a dentist and assistant for every working day, besides six administrators of anæsthetics and two demonstrators. Students pay a fee of £31 10*s*., which handsomely compensates the operators for gratuitous services given the poor. The National Dental Hospital has also a college, with as large an hospital staff; charges students £7 7*s*., and £12 12*s*. for six months' attendance. All the institutions I visited have a dentist for each working day, and all charge fees to students. In brief, these bodies are teaching corporations, and in no sense purely charitable. At Guy's Hospital there are two dental surgeons' dressers; the senior dental surgeon receives £40 a year. London, St. George's, University, King's and Charing Cross Hospitals have only one dentist each. At St. Bartholomew's there are four, and an annual sum of £250

is divided among them. The Evelina Hospital for Sick Children, as well as the one in Bloomsbury, have each one; the Brompton Hospital for Consumption has one; Westminster has two; the Royal Westminster Ophthalmic has one; the National Orthopædic has one; the various special hospitals for women and children, such as the Chelsea, Soho Square, Marylebone Road, Royal and Samaritan, have each a dentist. It would be tedious to enumerate the list.

The difficulties in the way of establishing independent dental hospitals in this Province at least, such as exist in London, Edinburgh and Dublin, appear now, as seventeen years ago, insurmountable; and it is still believed that by application with existing bodies all the advantages of independent hospitals could be obtained without the present necessity of soliciting public aid.

It must not be imagined that our profession has not done its share in this direction. Just because there are no special departments in our hospitals, every dentist in the city has done, and willingly does, a large share of gratuitous work for the poor in the private office; while most of them informally give free services to certain charitable and benevolent institutions. Of course it would be impossible in a small city like Montreal, where even disease and death are classfied by religion and nationality, to secure that harmony which is necessary to embrace all the operations performed in the institutions I have named. The dental profession is neither numerically nor financially much better than the English curates, of whom it was said that they were "the best educated paupers in the parish," and without the direction and strengthening influence of the medical profession, they cannot do even what they are willing to do. Whether it would be wise or not to ask us to include in the services to be rendered the full complement of our practice is a question. But if the city dentists are willing, as they have expressed themselves to be, to afford relief in extraction, for remedial as well as for regulating purposes: to treat diseased gums, excessive deposits of salivary calculus, and operations of a slight character to preserve rather than to extract, the ground would not only be fairly well covered for patients who do not expect their bread buttered on

both sides for nothing, but may open the way for more extensive work later on. In consideration that it is proposed to do this without fee or hope of reward, and that the dentists only ask the hospitals to supply a cheap operating chair and the necessary instruments, there should be no great difficulty in settling the matter to-day instead of waiting seventeen years more. The appointment of a dentist for each working day for general hospitals, three for dispensaries, and one for certain charitable and benevolent institutions, is quite necessary to secure efficient and proper attendance.

CASE OF TRACHEOTOMY IN DIPHTHERIA—RECOVERY.

By J. W. Clemesha, M.D., Port Hope, Ont.

The patient, a little girl aged 8 years, was first seen on the 15th of March. I then found the diphtheritic membrane on the tonsils, pharynx, and extending into the posterior nares. The constitutional symptoms were not unusually severe. On the 17th symptoms of laryngeal invasion appeared, and the membrane completely covered the throat. In spite of the usual treatment the dyspnœa increased, and it became evident the child would die if not relieved. On the 19th, in consultation with Drs. Clark and Jalter, tracheotomy was decided upon, and I at once opened the trachea and put in a canula. During the operation, which was performed under chloroform, the struggle for breath was so great that we feared she would die on the table. The operation was consequently hurried, and the opening made in a pool of blood, which ran into the windpipe when the tube was put in. A vigorous cough expelled the blood, and breathing became at once quiet. After the operation, for some time, the pulse was very weak, but improved under stimulants. On the tenth day after the operation the canula was removed, but as the false membrane covered the wound and lined the trachea as far as could be seen, and the breathing was somewhat difficult, it was replaced. On the twelfth day it was again removed, but replaced, as there was still membrane to be seen and the breathing was more comfortable with the tube in; the

child also asked to have it put back. On the fifteenth day the tube was finally removed, the patient breathing easily through the larynx. The wound rapidly healed, and the child is now well. The after-treatment consisted in maintaining a warm, moist atmosphere in the room by slacking lime and the steam of water. The tube was covered by a warm, moist sponge, and frequently sprayed with a solution of lactic acid in lime-water and glycerine. Stimulants were freely given, the patient at one time taking in twenty-four hours six pints of Bass' ale, and for days two or three pints a day. As she improved the desire for ale lessened. The convalescence was fairly uninterrupted; constant care, of course, being required to keep the canula clear. The care and attention involved in bringing this case to a successful termination was enormous. For the first ten days Dr. Jalter or myself was in constant attendance during the night, and Mr. H. Soltis, a third year medical student, during the day. The little patient, also, was extraordinarily intelligent and docile; whatever the doctor or nurse wished her to do was done without a murmur. The operation was done before the vital powers were exhausted, which no doubt favored recovery.

My object in reporting this case is to encourage medical men to give, in like cases, a chance for life by an operation. They can but die at any rate; but death is shorn of half its terrors by the operation. Consent of the parents is, in my experience, hard to obtain, which, I think, is partly our own fault, as we are, unfortunately, unable to hold out any great hope of the success of the operation, and we are not emphatic enough in urging it. I would say, operate early; do not wait until the patient's vital powers are exhausted and the nervous system poisoned by insufficiently purified blood. And if we save a life, it is an unmistakeable triumph of the healing art.

QUARTERLY RETROSPECT OF SURGERY.

By Francis J. Shepherd, M.D., C.M., M.R.C.S., Eng.
Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Radical Cure of Hernia.—The radical cure of hernia is a subject which has for years interested surgeons, and many operations have been devised to permanently cure herniæ. Up to quite recently these were all comparatively unsuccessful, especially in cases of large irreducible herniæ. The operations of Wütz̈er and others, though much lauded at the time, are now admitted to have been failures. Wood's operation was more successful, but never as successful in the hands of other surgeons as in those of the originator. The radical cure of hernia by the introduction into the inguinal canal of some astringent and irritant solution was practiced secretly with success by men such as Heaton of Boston, but although this method is still practised by some surgeons, its results are uncertain, and it is not applicable to large herniæ or those which are irreducible. With the introduction of modern antiseptic surgery, bolder and more successful measures were practised. The results of these methods, which have been carried out for the last few few years by hospital surgeons, are now becoming apparent, and papers are being published giving series of cases treated by cutting down on the hernia and dissecting out the sac, replacing the bowel, then ligaturing the neck of the sac and extirpating it. In many cases the canal at the same time is closed by sutures. This method of treating hernia was largely discussed at the last meeting of the British Medical Association, held in Dublin, and many very valuable papers were read. I propose in the present retrospect to give a synopsis of the various methods practised by modern surgeons for the radical cure of hernia.

Mr. Mitchell Banks, who was one of the first to extensively perform this modern operation for the radical cure, and who has had a very wide experience, read a paper detailing his methods and giving the results of his practice. (*Brit. Med. Journal*, Dec. 10, 1887.) His method in inguinal hernia is, first, to cleanly dissect out the sac, replace the bowel, and tie and cut

off the adherent omentum; the sac is then pulled down, ligatured as high up in the canal as possible, and removed; finally the pillars of the ring are brought together by two or three silver sutures, which are left in position. In *femoral hernia*, the cleansing and removal of the sac constitutes the whole operation, and no attempt is made to close the femoral aperture. In *ventral* and *umbilical hernia* use is frequently made of the whole or part of the sac as a plug to stop the aperture, which is generally large. This method for the radical cure of hernia Mr. Banks considers the simplest yet devised; the more complicated operations he thinks are most successful in the hands of their inventors. He claims no originality for the operation. He presented a table of 106 cases, 68 of which were herniæ without strangulation, while in 38 strangulation was present. The non-strangulated cases he divides into two groups—the first where the herniæ were of moderate size, and the second where the herniæ were very large or even of enormous size. In the first group the operation is comparatively easy, and the mortality is not great; but in the second group, where the herniæ were of large size, so large that no truss or any support was of any value, and the patients were unfitted for the duties of life, the operation was usually difficult and prolonged, and the dangers great. In the first class, non-strangulated herniæ of small size, there were 52 operations with 2 deaths; one was a weakly child aged 2, who had a landslip of the cæcum into the scrotum, and who died of shock, and the other was a man aged 47, suffering from locomotor ataxy. In the second class, very large and enormous herniæ, not capable of support by trusses, there were 16 cases. Here the mortality was great—four deaths, 25 per cent. In one case the amount of bowel was so great that it could not be returned into the abdomen, and the operation had to be abandoned. In large operations he leaves the wound open. In the third class, strangulated herniæ, there were 38 cases with 3 deaths. One of these was practically moribund at the time of the operation; another case was an old bronchitic aged 77.

Now as regards the actual utility of the operation. Of the 66 cases Mr. Banks has been able to follow up, 44 were com-

pletely successful from a curative point of view, and 7 were partially successful; that is, they could wear a truss, where before they could not.

Mr. Banks thinks that operative procedures are seldom required in children, and he thinks a well-fitting truss in the vast majority of cases will effect a cure. He always urges the operation in cases of small femoral herniæ with adherent omentum, as they are never safe from sudden strangulation. No one should be subjected to the operation who can wear a truss with comfort, which keeps his bowels securely in position.

Mr. Banks strongly recommends that a light support should be worn after operations, and he does not believe that this destroys adhesions, as some teach. Mr. Banks is more conservative than most surgeons who practice the operation of radical cure, and limits its performance to certain cases only; in this way he thinks more good will be done than by indiscriminate cutting.

Macewen's Operation.—At the same meeting, Dr. William Macewen of Glasgow described his operation for the radical cure of oblique inguinal hernia. (*Brit. Med. Jour.*, Dec. 10, '87.) This operation has already been described in the August number of the *Annals of Surgery* for 1886.

Dr. Macewen says that in the various kinds of operation for radical cure of hernia at present performed, the sac is either retained in the canal, being dealt with in various ways, or a ligature is placed on its neck and the remainder of the sac removed. In his operation the sac is preserved and completely returned beyond the limits of the canal, where it forms a pad, which is placed on the abdominal aspect of the circumference of the internal ring. When the sac is left in the canal it acts as a plug, and plugs tend to widen instead of obliterating the canal. Before operating, the hair of the pubis and neighboring parts should be closely shaved, the skin washed with soap and water and nail brush. After drying, turpentine should be smeared over the parts, and after a little methylated spirit to clear away the turpentine. The parts are then covered with lint soaked in an antiseptic solution until the patient is ready for operation. Dr. Macewen has special needles for the performance of his

operation; they are right and left, and curved at right angles to the shaft. Wood's or Reverdin's needle might be used for this operation. After having reduced the bowel, an incisiou is made sufficient to expose the external abdominal ring. The operation is divided in two parts—one to establish a pad on the abdominal aspects of the internal ring and the other to close the inguinal canal. To form the pad, (*a*) the distal extremity of the sac is first freed and elevated, then the sac is pulled down and the finger is introduced into the inguinal canal, and the sac is separated from the cord and the parietes of the canal; (*b*) the finger is introduced outside the sac until it reaches the internal ring, then with the tip the peritoneum is separated for half an inch all around the ring; (*c*) a stitch is secured firmly to the distal extremity of the sac, the end of the thread is then passed in a proximal direction several times through the sac, so that when pulled upon the sac is folded or puckered up like the top of a curtain, the free end of this stitch is threaded in a hernia needle introduced through the canal to the abdominal aspect of the fascia transversalis, and there it is made to penetrate the anterior abdominal wall about an inch above the upper border of the internal ring, the wound in the skin is pulled up so as to allow the point of the needle to project through the abdominal muscles without penetrating the skin, the thread is then taken out of the needle and the needle withdrawn. Traction is now made on the thread, the sac wrinkles up and is thrown into a number of folds. An assistant maintains traction upon the stitch until the sutures closing the inguinal canal are introduced, and then the end of the stitch is secured by introducing its free extremity several times through the superficial layers of the external oblique muscles. In this way a pad of peritoneum is placed upon the abdominal side of the internal ring and becomes attached there, the surfaces having been freshened. The closure of the canal is now undertaken. This is effected by means of the hernia needles passed through the *conjoined tendon* in such a way as to leave a loop in the abdominal aspect and two free ends externally; these are separately passed from within out through Poupart's ligament and tied there in a reef knot. The

material used for sutures is catgut. The wound is drained with a bone drain, dusted with iodoform, and dressed with a sublimate wool pad; the wound is not dressed again for two weeks. The patient is kept in bed four to six weeks, and is told not to lift anything for several months.

Dr. Macewen has performed his operation in 49 cases of non-strangulated and 16 of strangulated hernia, making in all 65 cases; 16 other cases were operated on by forming this pad for femoral hernia. In one case only did the operation fail, and no case died. Of the 49 non-strangulated cases, 19 have been kept under observation for no less than one year, and 20 from one to five years; all were successful. Of the strangulated cases, 14 have been kept under observation from one to four years. Of the femoral cases, 6 were under observation from one to three years. All the cases when last examined were found to have the rings firm, with no impulse on coughing. Out of 48 non-strangulated cases, in which the operation for radical cure was performed, one only was found afterwards to wear an external pad; the parts, however, were firm.

Dr. Macewen's results are remarkable; no deaths and only one failure. I had the pleasure of seeing some of his cases last summer and can testify to the efficiency of the operation. The good results, however, are as much due to Dr. Macewen's wonderful skill and care as to the operation itself, which is an excellent one, and not very difficult to carry out if once seen.

Ball's Operation by Torsion of the Sac.—Mr. C. B. Ball of Dublin (*Brit. Med. Jour.*, Dec. 10, '87) has devised an operation which is as follows: The sac must be completely isolated from the structures comprising the spermatic cord by narrow-bladed blunt scissors. Having ascertained the sac is empty, grasp the neck with a pair of broad catch forceps and gradually twist it up. While this is being done, the left forefinger should be used to free the upper portions of the sac. Four or five complete revolutions are sufficient in most cases. The torsion forceps is now transferred to an assistant, and a stout catgut ligature is placed around the twisted sac as high up as possible, tied tightly and the ends cut short. Two sutures of strong

aseptic silk are now passed through the skin at a distance of about an inch from the outer margin of the wound, through the outer pillar of the ring, through the twisted sac in front of the ligature, and then through the inner pillar of the ring and skin upon the inside. The sac is now cut off in front of these sutures, and a catgut drain is brought out through a separate opening at the back of the scrotum and the two sutures closed over lead plates which lie at right angles to the wound. The pain is not great. Dry dressings are used and allowed to remain in for ten days or a fortnight. Mr. Ball has operated on 22 cases for radical cure without a death, and in only three had a truss afterwards to be worn. He does not approve of wearing a truss after operation unless there is a return. In congenital hernia he divides the sac circumferentially close to the testicle, as do most operators, and then the serous membrane above is separated well up to the internal ring and twisted.

Mr. Ball holds that the effect of torsion of the sac in closing the hernial canal and tightening up the peritoneum is greater than in any other operation, and that it fails in relatively few cases. He treated three cases of strangulated hernia in this way with one death, where the patient had kidney disease. The patient died on the eighteenth day, and the specimen which he obtained showed the far reaching effect of torsion of the sac remarkably well.

At the same meeting of the British Association several other papers were read. Mr. Kendal Franks of Dublin described a method of *Cure of Hernia by Dissection*. He holds that in competent hands the operation is perfectly safe. Mr. Franks does not regard a case as cured if a truss has to be worn. In his operation the skin incision is made on a higher level than the canal. The sac is then cleared from the surrounding parts, opened, and the finger passed through until the margins of the internal ring can be felt. A silver wire is then passed through one pillar of the ring and through one side of the sac, then the needle is passed through the other pillar of the ring and through the other side of the sac; it is threaded with the same wire and withdrawn. When this suture is tightened, it not only closes

the ring but fastens the sac. The sac is excised below the sutures. In cases of congenital hernia, instead of dissecting out the cord, the sac is divided across above the testicle; the upper part is peeled off and the lower sutured to form a new tunic for the testicle. To close the inguinal canal and ring, the upper part of the internal ring is first closed by passing the silver wire straight through the aponeurosis of the external oblique; directly over the ring the needle, armed with the wire, is passed through Poupart's ligament and appears in the canal, where the wire is withdrawn. The needle is now passed through the external oblique aponeurosis on the other side of the ring, threaded with the wire and withdrawn. A second one is passed in the same manner lower down. A third suture closes the external ring. Mr. Franks has had twenty cases without a death.

Barker's Operation.—Mr. Arthur E. Barker of London reported *Thirty-five Operations for the Radical Cure of Hernia by Original Methods.* (*Brit. Med. Jour.*, Dec. 3rd, 1887.) He states that he has in no instance attempted a radical cure of a hernia unless there was some special reason for abandoning the palliative treatment. He excludes from his list all cases in which a radical cure has followed herniotomy for strangulation. Mr. Barker has had no deaths due to the operation, and no symptoms causing any anxiety. In only two out of the 35 cases did the hernia return. The list comprises 12 congenital and 15 acquired inguinal hernia, 1 femoral and 3 umbilical. Twenty of the cases were under 10 and nine above 20; the youngest was four months and the oldest 70 years. Silk was used in all cases, as he considers it more certain than catgut or kangaroo tendon. The peculiarities of Mr. Barker's operation are as follows: Having cleared the neck of the sac, a stout silk ligature is passed under it, close to the external ring, care being taken not to include the vas deferens. Before this ligature is tied the sac is opened longitudinally below the ligature sufficiently to see clearly that the neck is free from gut or omentum, which, if present, are reduced completely or the omentum cut away. When the neck is quite clear the ligature is tied round it firmly *en masse*, the ends being left uncut. The sac is now cut across

half an inch below the point of ligature and the lower scrotal portion left to take care of itself. One of the ends of the ligature hanging from the stump of the neck of the sac is now threaded in a Lister's needle, and the latter passed up the inguinal canal in front of the cord, guided by the left index finger, which pushes the stump of the sac before it. The internal ring is felt for and the needle is forced through one border of the ring and out through the external oblique muscle, it is then unthreaded and withdrawn, and is again threaded with the other end of the ligature; this is carried in the same way through the opposite border of the internal ring and through the external oblique muscle, the needle unthreaded, and then both threads are pulled up (the stump is thus drawn into the abdomen), the two ends tied together in a secure knot, and thus the internal ring is closed. The canal is closed by four to six stitches passed in front of the cord. Dry dressing is applied and not removed for ten days: drainage is unnecessary. The patient remains recumbent for three weeks to a month. In three cases where the hernia returned a second operation was necessary. Of the 20 cases which have been followed up, none have shown any return of the hernia. The longest time after operation, however, was only twenty months.

Since the paper was read before the British Association Mr. Barker has had six other cases, all successful. So Mr. Barker has had 41 cases with no deaths, a remarkably good showing. As to the results of the operation regarding permanent cure, the time that has elapsed is not yet sufficiently long to judge, but there had been altogether five returns up to date of paper (Dec. 3, '87).

Mr. Mayo Robson of Leeds reports (*Brit. Med. Jour.*, Dec. 17, 1887) *Twenty-six Consecutive Operations for the Radical Cure of Hernia.* Half the cases were performed after herniotomy for strangulation, and the others in non-strangulated cases for irreducible or troublesome herniæ, where no truss could be satisfactorily applied. In all but two cases where Wood's operation was performed, the sac was excised after its neck had been ligatured, the canal being sutured only if very open. In every

case strict Listerism was followed out, and as a rule not more than one or two dressings were required. The ages of patients varied from three months to 76 years. The ruptures were ventral, femoral, inguinal and inguino-scrotal. The greater number were permanently cured, but there were five cases where a truss was advised, and one case of return, but which a truss kept up easily. Three deaths occurred, two in the strangulated and one in the non-strangulated. Two died of acute bronchitis.

Mr. Chauncy Puzy of Liverpool reports 24 cases of operation for radical cure in non-strangulated herniæ, and in only half did he find it necessary to suture the pillars of the ring. When ligaturing the neck of the sac he advises that the finger should be pushed up in the sac as high as the internal ring, whilst an assistant presses the ligature beyond the tip of the finger, and thus ties the sac internal to the ring itself; if the sac is hard and unyielding, and there is a chance of the ligature slipping, he transfixes the neck of the sac and ties the neck in two halves first and then passes the ligature around the whole sac. He believes in prolonged rest in bed after operation, two months if possible. It is to this especially that he attributes his satisfactory results.

Dr. Rabagliati of Bradford (*Brit. Med. Jour.*, Dec. 3, '87) reports 10 cases of radical cure, all successful. Three were non-strangulated and seven strangulated; in four cases the hernia was femoral and six inguinal.

Mr. Wm. T. Stoker of Dublin read a paper on the *Theory and Practice of Operation for the Radical Cure of Hernia.* He sums up as follows: (1) That, particularly in young children, operation should only be undertaken when minor measures have failed or are inapplicable. (2) That on the ground of its safety, certainty and precision, the operation by dissection is to be preferred. (3) That twisting the sac is a safe and efficient aid to the operation. (4) That sutures, so far as their use in closing the canal is concerned, serve but a temporary purpose, and that their chief end is to excite a sufficient lymph exudation. (5) That sutures, therefore, need not be introduced tightly, and that trouble from testicular swelling may be thus avoided. (6) That

the permanent retention of wires is unnecessary, possibly hurtful, and bad in theory and practice. (7) That while a uniform support to the inguinal region is desirable for some time following the operation, it cannot safely be afforded by a truss furnished with a pad.—(*Brit. Med. Journal*, Dec. 3, '87.)

At the third French Congress of Surgery held in Paris, March, 1888, a discussion took place on the *Value of the Radical Cure of Herniæ with regard to their Final Cure.* (*Medical News*, April 21, '88.) Dr. Socin of Bâle, Switzerland, said he had operated 75 times for the radical cure of non-strangulated cases, and 85 times for strangulated ones. In the first series he had two deaths and the second eleven. He had seen after operation 133 of his 147 patients; some a few months after, others one year, and others at the end of nine years. Many were entirely cured, while others derived much benefit from the operation. Dr. Socin said the operation ought to be performed in every strangulated hernia, except where the intestines should not be reduced. The resection of the sac in such cases, instead of being a danger, offers a new chance of success. With regard to the cure of non-strangulated cases, the indications for operation are: young subjects below twenty, whose rupture cannot be satisfactorily controlled by bandage or truss, and in adults where the truss does not retain the hernia completely in an easy and non-painful position. The chances of success are much greater in the young, when the hernia is small and recent; of these he obtained 62 per cent. of perfect cures. In elderly subjects his successes have been only 42 per cent.

Dr. Socin's operation consists in the total extirpation of the sac below its neck. Suture of the pillars of the ring are only occasionally necessary. In cases of testicular ectropia with atrophy, the testicle must be removed with the sac. (Dr. Socin's operation and results are described at length in an article in the *Deutsche Zeitschr. f. Chirg.*, Hft. 3 and 4, 1886.)

Dr. Thiriar of Brussels said that during the last two years he had operated in 26 cases of hernia; 12 were strangulated and 14 not. In 21 cases he performed the radical cure, with one death in an old man. He always sutures the rings and drains

through the scrotum. He only operates when the hernia is irreducible, congenital with testicular ectropia, or when it can be maintained in position with difficulty by a truss.

Dr. Leonté of Bucharest operates as follows: After incision of sac and reduction of the hernia, the internal surfaces of the sac, as well as of its neck, are exposed. He then incises in a circular manner the serous membrane mass on a level with the neck, and separates it from the adjacent cellular tissue. The serous membrnne rolls it on itself and the superior orifice is thus obliterated. He then passes a ligature of catgut around all the surface which has been denuded, and drawing the two ends together the opening is closed like a purse. He does not extirpate the sac, but, after scraping it, sews the walls of the sac and the skin in the same suture. By this method he has had seven successes in seven cases, and has as yet seen no return. One case was operated on two and a half years ago.

Dr. Mollière of Lyons operates thus: (1) He isolates the sac first without opening it. (2) The sac is then opened in its most prominent part and the contained viscera examined. (3) In strangulated cases the constriction is incised outside the sac and the neck dilated with a blunt instrument. (4) Finally the sac is ligated with an elastic thread tightly applied.

Dr. Routhier of Paris has performed 14 operations for the radical cure, and advises total extirpation of the sac with ligature of the neck. He does not suture the pillars. He has had only one return. Two cases of umbilical hernia were completely cured.

Prof. Trelat of Paris does not like the term "radical cure," but prefers the words "operative or surgical cure." Cases easily reducible and maintained by a truss should not be operated on. He advises interference in all cases of irreducible herniæ, however small, and in hernia where a truss fails to support He had collected 307 cases from various sources (17 of his own) without one death. He knows of no more successful surgical operation, although death is possible in certain grave cases.

Dr. J. Bœckel of Strasburg has done twelve operations for radical cure. He lost two patients, one from delirium tremens

and one from septicæmia; in the ten surviving cases two had a return, three have had no return after ten, twelve and eighteen months, and three have had no return after six and seven years. All wear trusses.

Dr. Lucas-Championnière of Paris made a great distinction between strangulated and non-strangulated cases. He has made 81 operations for radical cure, with one death—a huge tumor in an emphysematous subject. In six weeks one can judge whether the operation is a success or not. He did not see why we should not operate for radical cure in those cases which are outside the rules laid down for intervention; he had operated on several children. Congenital hernia is an absolute indication. Hernias that grow rapidly should always be operated on. Radical cure has three enemies—pulmonary congestion, the occurrence of large intestine in the sac, which renders the operation difficult and the return of the trouble certain, and, finally, the organic breaking down of old hernial patients who are troubled with albuminuria or glycosuria. He always operates on small herniæ before their volume renders these operations dangerous and less efficacious.

Dr. Segond of Paris has operated 14 times in non-strangulated and 30 times in strangulated cases; he had no death in his non-strangulated cases and five in the strangulated. Two of his 14 cases had been definitely cured. He applies ligature as high up the sac as possible. In dissecting out the sac it is not always easy to save the cord, and on two occasions he sacrificed it.

Drs. Swarz, Richelot and Le Bec also related cases.

Dr. Keen of Philadelphia reports a case of Macewen's operation for the radical cure of hernia which was followed by a speedy return (*Medical News*, March 18, '88), but still the hernia was improved. Dr. Keen also reports a case of *Omphalectomy* for strangulated umbilical hernia which was followed by death (*Med. News*, Feb. 25th, 1888). The patient was a woman aged 56, short and fat. The hernia had become strangulated and fæcal vomiting had set in. Several days after, the first symptoms of strangulation set in; the operation was performed by cutting down

on the tumor, exposing inflamed omentum, and reaching a knuckle of bowel which protruded through the umbilical opening. The intestine was congested, but not dark in color; it was reduced. The ring was large enough to admit the forefinger, but was so thick and unyielding that it could not be closed, so it was excised by an elliptical vertical incision six inches long; the omentum was cut off and the wound closed, but the woman died next day. At the post-mortem the bowel was found gangrenous, the gall-bladder filled with stones, and the kidneys large and friable—right contained numerous calculi. Dr. Keen attributes the fatal result to the too late performance of the operation. Antipyrin was given, and was followed by collapse; and perhaps this drug precipitated the collapse which preceded death.

I have taken up considerable space in describing the present status of the operation for the radical cure of hernia by the direct method; but the subject has seriously occupied the attention of surgeons for some years, and the results of a large series of cases are only now being reported. On the whole, the verdict is favorable, not only as to the immediate good result, but as to the permanent cure or great improvement in the large majority of cases operated on. The operation of Mr. Banks appears to me to be the one which is the easiest of performance, and which gives as satisfactory results as any other method. It is an operation which any modern surgeon of ordinary skill can perform. It requires no complicated method of stitching or the use of any special instruments. The surgeon may modify it to suit himself, as, for instance, substituting silk or catgut for wire and treating the neck of the sac by fixing it to the internal ring in some such simple way as suggested by Mr. Barker.

Mr. Macewen's operation in his own hands has certainly been most successful, but I question whether other surgeons can get as good results.

In all the operations the principle seems to be to dissect out the sac and to cut it off after ligaturing the neck. The question of the utility of suturing the pillars of the ring is still disputed by some surgeons, but the point insisted on by Macewen is important, viz., that the conjoined tendon and not the external

oblique aponeurosis should be sutured to Poupart's ligament. The canal is much more effectually closed by this method. All cases should be well considered before undertaking operative procedures, and where no inconvenience is caused by the rupture it should not be interfered with. The rules laid down by Mr. Banks as to the cases that are suitable for operation should be remembered by all conservative surgeons. With regard to the danger of the operation, it is, of course, much greater in cases where the hernia is of large size and contains large intestine. Comparative statistics are very fallacious unless the same kind of herniæ are compared. One man may have a large series of successful cases in ordinary small reducible ruptures, but a few operations in large irreducible scrotal herniæ in fat individuals with emphysematous lungs will seriously affect his statistics. Mr. Banks does wisely to divide his cases into three classes, viz., strangulated, non-strangulated small, and non-strangulated large. The indiscriminate performance of the operation of radical cure in cases which can be easily controlled by a truss is much to be condemned. The difficulty of the operation in cases of old, large, irreducible herniæ is often very great. A short time ago I operated in such a case in a stout man, and had the greatest difficulty, even after cutting off all the omentum, in returning the bowels into an abdomen to which they had been strangers for some years. Nearly all the small intestines, with the whole transverse and descending colons, were in the sac, and it was only by inverting the patient that the bowels could be worked into an abdomen which seemed too small to contain them. When returned, the abdominal walls were distended and as tight as a drum. The patient did well, and there has been no return as yet. In such cases it would be well to starve the patient, perhaps, for some time before operating.

The Return of Extirpated Neoplasms.—At the late French Congress of Surgery this subject was discussed. Dr. Cazin of Berck-sur-Mer gave the results of his practice from September 1882 to 1886. He had extirpated 564 malignant tumors of all kinds; 102 scirrhus of breast, 60 with extension to glands of axilla, 42 without. In the first 60, 7 definite cures and 48 re-

turns, 3 died, and 2 results unknown. In the 42 others, he had 8 absolute cures, 28 returns, 2 deaths, and 5 result unknown. He had operated on 120 encephaloids, 80 with glandular enlargements, 40 without. In the first 80 he had 5 cures, 67 returns, 4 deaths, 4 results unknown. In 40 others, 8 definite cures, 26 returns, 1 death, 5 results unknown. The returns he had observed commenced from three months to seven years after operation. He attributes the proportion of his successes to his adhering strictly to the following precepts, viz., very extensive extirpation, without occupying himself with the immediate union of the wound. Even when the lymphatic glands appear normal, he extirpates the lymphatic vessels between the tumor and the lymphatic glands.

Prof. Verneuil of Paris said in the great majority of cases cancer is a constitutional disease ; the beginning may be a local trouble, which, once developed, will infest for ever the system and never is cured. He had seen in a lady a cancer return in a cicatrix of the breast thirty years after primary extirpation, with histological characters exactly similar to the first tumor ; another case recurred in the glands six and a half years after extirpation of epithelioma of the neck of the uterus. His opinion was that morbid latency explained the glandular return. He thought that the germs of cancer in an embryonic state could be destroyed and influenced by medicines which are powerless in the cancer itself. He always prescribes after an operation a permanent arsenical and alkaline treatment. He orders 1-25th of a grain of arsenic a day, and a teaspoonful of magnesia every night before going to bed. Under the influence of this treatment he had seen a lymphatic gland remain stationary for more than one year after amputation of the breast ; he absolutely condemned iodide of potassium. He advised also a vegetable diet, and thought that the French peasants have had a great increase of cancerous diseases since they have taken more meat with their meals.

Dr. Poncet of Lyons said that of seven primary epitheliomas of the scalp, all died after one or more operations. Two epitheliomas engrafted on old sebaceous cysts gave two cures ; eight

epitheliomas of the tongue, all died from a return of the trouble within two years. Again, he had two cures in epithelioma of the floor of the mouth. In one case of cure, both external carotids were tied and the lower jaw removed.

Dr. Bœckel of Strasburg, out of 103 operations for carcinoma, had 14 deaths and 89 recoveries; 12 of these were permanent cures, 32 have been lost sight of, and 45 others had returns. One case of rectal cancer had no return for six years. Three cases (lip, rectum and tongue) did not return for eleven to twelve years.

Dr. Richelot of Paris reported 13 cases of vaginal hysterectomy, with 7 returns and 6 cures. However, two of the cases had only been operated on two months. It is in the first six months the return of the neoplasm is to be observed. It is rare to observe it after two years.

Remarks were also made by Drs. Labbé, Sabatier, Mollière, and others.

These results of operations for malignant disease are encouraging, and should tend to reassure surgeons that in such cases operative measures are not wholly in vain if undertaken early. In many cases of malignant disease, although the affection may not be cured, temporary relief is afforded in some cases for years. In sarcomata of the neck the results of operation are not brilliant, and I have been much disappointed, after the most extensive operations, to see an almost immediate return. In one case only (round-celled sarcoma) has there been no return after two years.

On the Excision and Scraping of Carbuncle.—Prof. Rushton Parker of Liverpool (*Brit. Med. Journal*, March 31st, 1888) cites some half a dozen cases of carbuncle in which he performed excision in the early stage. After excision he applies pure carbolic acid and then a sublimate dressing. In some cases further advanced he removes the necrotic tissue with spoon and scissors. The results in all cases were admirable.

Mr. Herbert Page (*Brit. Med. Jour.*, March 24th, '88) advises, in cases of carbuncle, to anæsthetize the patient, make a small central incision, and then with a Volkmann's spoon excise every particle of sloughing tissue; such skin as seems dead and

blue should be cut away with scissors. After irrigating the wound with antiseptic solutions, iodoform is dusted in, and the whole covered with wood-wool pads and a pressure bandage applied.

Whilst in Germany last summer I visited Neuber's hospital in Kiel, and he showed me many cases of carbuncle which he had excised. He said that the duration of the affection by such treatment is about ten days. His method is to excise the carbuncle early, irrigate and if necessary scrape, then stuff with iodoform gauze ; after five or six days he removes the tampon, pares the edge of the wound, and unites it by a continuous suture. He always gets union by first intention and thus avoids scarring. I have not seen a case early enough to put in practice this treatment, but I have scraped with Volkmann's spoon and removed with scissors the necrotic tissue in a couple of cases with good results.

Case of Cerebral Abscess in connection with Otitis Media successfully diagnosed and evacuated.—This case is reported by Dr. D. Ferrier (*Brit. Med. Journal*, March 10, '88). He says this is one of the few cases of cerebral abscess in connection with disease of the ear which have been accurately diagnosed during life and successfully treated by operation. The patient, a man aged 47, was first seen Nov. 25th, but had been ill since Nov. 10th. He had had an offensive discharge from the left ear for some ten days before. When seen he was drowsy, had pain over left side of head, with photophobia. On the 30th was more drowsy, and it was difficult to rouse him. Normal temperature and pulse. On Dec. 3rd he became delirious. On Dec. 6th his speech was affected ; he used wrong words. When seen by Dr. Ferrier he was less drowsy, but incoherent. On examining the eyes signs of optic neuritis were evident. Weakness of right angle of mouth. On careful examination a spot, tender on percussion and pressure, was found two inches above and just anterior to a line drawn upwards from the external auditory meatus. The diagnosis of cerebral abscess was made, and the patient was operated on by Prof. Victor Horsley and the pus evacuated (five drachms). The patient rapidly recovered.

Dr. Ferrier says that he has been able to find only two cases of a similar nature, that of Gowers and Baker, and that of Greenfield (see Retrospect for June, 1887, pp. 71-74). Two others, referred to by Greenfield, Schondorff and Truckenbrod, he adds, but makes no mention of the case reported by Macewen (*Lancet*, March 26th, '87), Ogston's case (*British Medical Journal*, Dec. 2, 1886), and the two unsuccessful cases reported by McBride and Miller to the Medico-Chirurgical Society of Edinburgh in March last. These are all noticed in the *June Retrospect.*

Mr. Barker reports a case of cerebral suppuration (*British Med. Jour.*, April 14, 1888), due to otitis media, which was successfully treated by trephining and drainage; patient was aged 33. Patient had had a purulent discharge from the ear, pain on that side of the head, vomiting, epileptiform convulsions, transient coma and partial left hemiplegia. The paresis had started on left side of face, and had spread to left arm. Indications were that the lesion existed in and about the junction of the middle and lower third of the right ascending frontal and parietal convolutions. On trephining, an ounce of pus was evacuated.

Brain Surgery in Dublin.—At a meeting of the surgical section of the Royal Academy of Medicine, on Friday, Feb 24, 1888, three successful cases of trephining were reported, and the discussion on the papers was adjourned to a future night. These cases were all remarkable.

Professor Thornley Stoker read particulars of a case in which a man fell from a cart while drunk. He came to the Richmond Hospital some days later, rather stupid and with some lightly marked paralytic symptoms. It was not easy to determine whether he had not had an attack of apoplexy. The paralysis becoming more marked, Mr. Stoker trephined in the region of the fissure of Rolando—there was no fracture—and struck the margin of a blood-clot. He again trephined and more fully exposed the clot, which was washed out. The area so compressed was about three inches, and the clot measured nearly an inch in depth. The patient recovered and was exhibited.

Sir Wm. Stokes read a paper on a case of successful trephining for cerebral abscess, and exhibited his patient. The man had been struck with a poker on the left side of the medial line of the head, about an inch anterior to the coronal suture. He was treated as an out-patient at another hospital, but ultimately applied at the Richmond, when he was admitted, several weeks having elapsed from the date of the injury. He soon presented brain symptoms, became convulsed and comatose, and it was determined to trephine. A small fracture was found under the scar; the dura mater bulging into the wound. An exploring needle was introduced to the depth of an inch and a half, and and pus was found. The dura mater was then incised, and one ounce and a half of pus evacuated. The patient completely recovered, and is now attending to his ordinary work. The paper noted eleven other cases of abscess which had been operated on by various surgeons, and discussed the questions involved.

The third case was brought forward by Dr. C. B. Ball of Sir Patrick Dun's Hospital, and the patient was also produced. The lad had been struck with a small knife over the squamous portion of the left temporal bone ten days before admission. The wound was healed, but he had some aphasia. Pain in the head and ear supervened, and the aphasia increased. It was determined to explore. He was trephined some weeks after the original injury; a wound was found in the dura mater corresponding to the puncture in the bone. A sinus forceps was passed in, the wound opened up, and some blood-clot escaped. The patient was decidedly better, but next morning he was again aphasic. The wound was washed out and more blood-clot escaped. The aphasia almost disappeared, but two days later returned, and the wound was again washed. After this the patient progressed favorably and is now well.—(*Brit. Med. Jour.*, March 3rd, '88.)

In an editorial in the *Medical News* of April 21st, 1888, is a note of a case operated on by Dr. W. W. Keen. The patient, a young man aged 25, fell eighteen weeks before and had a depression two inches long on the right side of the head, over the supra-marginal and post-Rolandic convolutions. He had epileptic attacks and paralysis of left wrist and hand. The de-

pressed bone was removed, and the underlying dura mater and the diseased brain tissue below was freely excised. The wound united at the end of three days, and patient was up on the fifth day. In this case ergot was given instead of morphine prior to the operation, and cocaine was applied locally to the cerebral vessels with good results in controlling hemorrhage. The button of removed bone was replaced whole, and fixed to the under surface of the flap by catgut ligatures.

Compound Comminuted and Depressed Fracture of the Skull; immediate trephining.—Mr. C. E. Bell relates a case of the above in a man aged 51, who complained of pain only, and was mentally quite clear. He trephined, removed loose fragments, and the man quickly recovered. Mr. Bell has followed out this treatment in four cases in the past fifteen months with the best results. All were operated on immediately after admission to hospital, without waiting for symptoms to develop, and all made excellent recoveries.—(*Lancet*, March 31st, '88.)

Additional Series of Eleven Cases of Cholecystotomy.—Mr. Lawson Tait (*Lancet*, April 14th, '88), in August, 1885, published thirty cases of operations on the gall-bladder with one death. All are yet living, with the exception of one who died of phthisis, and in none has there been a recurrence of the disease. To this list Mr. Tait adds eleven more, all of which recovered except one. The fatal result was due to the advanced age and extremely anæmic and exhausted condition of the patient. She was 61 years of age and never rallied from the operation, and died on the third day. At the post-mortem, the head of pancreas was found to be the starting-point of a carcinomatous growth which spread to the portal fissure; the cystic duct was infiltrated with new growth. At the time of the operation, a large gall-stone and four ounces of pus were removed from the gall-bladder. In the ten other cases Mr. Tait encountered the usual difficulties, such as inflammatory adhesions and contraction of the gall-bladder. Some were suppurating. In solitary gall-stones the trouble seems always to tend to suppurative changes. This makes the gall-bladder friable, contracted, and adherent to the deep structures. Mr. Tait says when there is an absence

of cancerous complications, and the age of the patient is such as to give a fair chance, recovery from this operation is almost certain. In speaking of the advisability of removing the gall-bladder, he says: In cases where suppuration has made the gall-bladder contracted and firmly adherent to deep structures, its removal would be a terrible procedure, and in many cases could not be completed. The more experience he has in dealing with these cases the less necessity it seems to him arises for anything more than the simple process of cholecystotomy, and the extremely favorable results obtained from it put it in the first rank of modern operative proceedings.

Antiseptic Irrigation of Joints.—This operation, introduced by Schede (*Rinne. Centralblatt f. Chirurgie*, Dec. 8, 1877) some ten years ago, consists in aspirating the joint with trocar or needle, removing its contents, and then injecting it with antiseptic solution, which by rubbing, flexing and kneading is brought into contact with every part of the synovial membrane. The washing is continued until the fluid returns perfectly clear. A splint and dressings are then applied for a week, then passive motion for a week, when patient is discharged wearing a flannel bandage.

Hager (*Deut. Zeit. f. Chirurgie*, Bd. XXVII, Hft. 1 and 2) gives a large number of cases treated in this way in the General Hospital of Hamburg. In 100 cases of ordinary dropsy, all were cured with one exception, a tuberculous case. Only four required a repetition of the operation In 15 cases of suppurative joints treated in this way, 7 recovered with good motion. There were 168 cases treated by irrigation and all recovered; and in 30 cases of purulent effusion, in one only did the procedure fail, demonstrating the fact that irrigation should be resorted to before incision.—(*Abstract of Editorial, Med. News*, March 3rd, 1888.)

Successful Case of Laparotomy for Typhlitis with Perforation.—At the recent meeting of the American Medical Association, held in Cincinnati, Dr. McMurtry of Danville, Ky., exhibited a patient, a physician, on whom he had successfully operated for perforation of the cæcum. Patient was subject to attacks of

colic, for the relief of which morphine injections were used. After a time tenderness was complained of and a tumor discovered in the iliac region. This was followed by hemorrhage from the bowel, vomiting, and tympanites. Operation was performed. Appendix found normal, but cæcum gangrenous in spots and perforations existed through which fæces had been extravasated. The edges of the perforations were trimmed and closed by suture. Patient recovered completely.

Surgery of Enlarged Prostate.—Dr. W. T. Belfield (*New York Medical Record*, March 10th, 1888) thinks that in cases of protracted cystitis from prostatic enlargement we should no longer withhold operative relief, and that after other methods have failed suprapubic operation of the bladder should be made. In a certain percentage of cases the obstacle to urination will be found as a projecting prostatic growth which can be removed with scissors or the cautery. In cases where this cannot be done, a permanent opening may be maintained and a tube fitted in; this enables patient to dispense with the painful use of the catheter. In some cases Apostoli's method of using an intense galvanic current has proved useful. Illustrative cases are given.

The method introduced by Harrison of Liverpool in cases of difficult catheterization appears to be more scientific, viz., incision through the prostate and drainage through the perineum.

Intestinal Obstruction treated by Laparotomy.—Dr. Wm. T. Bull (*New York Medical Record*, Feb. 25th, '88) reports five cases of intestinal obstruction treated by operation, with three recoveries and two deaths. The deaths were in (1) a case of intestinal obstruction by peritoneal band, with peritonitis, operation on eleventh day; (2) obstruction for cancer of the rectum. The recoveries: (1) Acute obstruction caused by peritoneal band; operation on sixth day. (2) Acute obstruction in cancer of the sigmoid flexure; laparotomy and artificial anus on the seventh day. (3) Chronic intestinal obstruction from cancer of sigmoid flexure; laparotomy and artificial anus. Dr. Bull strongly urges operative interference in cases of acute intestinal obstruction if medical measures fail to relieve at the end of 24 or 48 hours. He does not advise removal of the intestines from the abdomen in searching for point of obstruction.

Resection of the Left Lobe of the Liver.—Dr. Langenbuch (*Berlin Klin. Woch.*, No. 3, 1888) records a case in which he successfully resected the greater part of the left lobe of the liver. This had been extensively deformed by tight-lacing, and had caused great inconvenience and trouble to the patient. The patient, a woman, was aged 30. She complained of abdominal tumor, and on examination this was found to be about the size of the fist, and situated in the epigastrium. The diagnosis lay between deformity from tight-lacing and hydatid tumor. An exploratory incision proved it to be due to tight-lacing. Dr. Langenbuch decided to remove this part of the liver, which was separated from the rest by a broad pedicle. The pedicle was transfixed with ligatures and the lobe excised. Symptoms of severe internal hemorrhage appeared the first night, and on re-opening the wound the cavity of the abdomen was found filled with blood. This was sponged out and the vessels secured, and no further trouble arose. The wound healed, but recovery was retarded by the occurrence of ascites, which necessitated tapping. The portion of liver removed weighed about twelve ounces. The patient finally completely recovered.—(*Lancet*, Feb. 4th, 1888.)

Cystitis.—Prof. Guyon of Paris, in some clinical lectures on the above subject, says (*Annal des. Mal. des Org. Gén.-Urin.*, Feb. 1887), when speaking of *Gonorrhœal Cystitis*, that after a gonorrhœa, as soon as the prostatic portion is reached, then cure is difficult. The affection may last years. Gonorrhœal cystitis localizes itself mostly in the neck of the bladder, and in the most severe cases causes the development of granulations. For treatment, he recommends the introduction into the empty bladder of 20 to 50 drops of a one to two per cent. solution of nitrate of silver.

Tubercular Cystitis.—This affection rarely occurs in cases of lung tuberculosis; often tubercle first appears in the bladder or in the neighboring joints and bones. A gonorrhœa frequently precedes a tuberculosis of the bladder. Guyon does not believe with Cohnheim that it can be contracted by sexual intercourse, especially for the reason that the anterior part of the urethra

is never the subject of a tuberculous process. This form of cystitis localizes itself in the neck of the bladder and the trigone. It frequently commences insidiously, without any cause, by symptoms of strangury, incontinence, and bloody urine. This symptom may last days and weeks, and is analogous to hæmoptysis. In other cases there is, in the first place, severe pain. Tuberculous cystitis can be temporarily relieved, and may last 15 to 20 years, without any lung complication. The best way to diagnose the disease is to search for the tubercle bacillus. The treatment is not very satisfactory. Avoid catheterization, and in the most severe cases perform cystotomy either in the perineum or suprapubic region.

Treatment of Carotid Hemorrhage.—At a meeting of the Medical Society of London, held on January 9th, Mr. Frederick Treves read a communication on the above subject. (*Lancet*, Jan. 14th, 1888.) He had long been convinced that ligature of the common carotid for hemorrhage from a small distant branch was a severe and often unnecessary method of treatment. In the limbs, bleeding from a small vessel could usually be controlled and arrested by temporary compression applied to the main trunk either with the finger, by flexion, or other means; but in the neck, temporary pressure by these methods could not usually be applied with success. He had therefore devised the plan of exposing the artery and passing a thread of catgut around it; if the loop thus formed were pulled up, pulsation in the artery stopped; if it were relaxed, the circulation went on again. He referred to four instances in which this manœuvre had been carried out successfully. The great recommendation of the method was that there were no grave risks from the operation itself, and there was no local inflammation in any of the four cases.

Sequel to a Case of Ligature of the Carotid.—At the meeting of the Clinical Society of London, held Feb. 24th, 1888, Mr. Holmes read some notes which formed the sequel to an old case of ligature of the carotid artery which was published in the ninth and tenth volumes of the Society's Transactions as one of distal ligature of the left carotid for aortic aneurysm. The

patient survived the operation for twelve years and then died of phthisis. The post-mortem examination proved that the thrill, bruit and pulsation which were thought to be caused by aneurysm of the aorta depended on stenosis of the valves of the pulmonary artery with dilatation of its left branch. There had been weakness and occasionally total absence of pulse in the left arm, but the cause of this was not explained by the post-mortem examination, which had been somewhat hurriedly made. The aorta and its branches were healthy as far as they were examined. The left carotid was obliterated throughout its whole extent. As the case had been used in discussing the propriety of distal ligature in aortic aneurysms, it was thought right to publish this correction.—(*Lancet*, March 3rd, '88.)

Bleeding after Tonsillotomy.—Prof. D. ZuckerKandl discusses this subject (*Wiener Med. Jahrbücher*, 1887, Hft. 6), and says that in addition to the pharynx wall and fatty tissue there lies a protective muscular layer formed by the stylo-glossus and stylo-pharyngeus between the tonsil and the carotid, and that wounding of the latter in tonsillotomy and the opening of tonsillar abscesses is unlikely if the knife be properly directed. Wounding of the internal carotid is possible in opening retro-pharyngeal abscesses, because there it is forced out of place by the pus. Severe bleeding, however, does occur in operations on the tonsil. This hemorrhage may prove fatal in cases of hemophilia. Sometimes, on account of the retraction of the bleeding vessel through the fibrous capsule of the tonsil, hemorrhage is difficult to arrest, and if not arrested may prove fatal. Pressure or the use of artery forceps generally arrests it, but if everything fails then ligature of the external carotid always will arrest it.

The artery that bleeds is the tonsillar, which may be given off variously. It is most commonly given off from the ascending palatine branch of the facial, more seldom from the facial directly or from the external carotid, and sometimes from the ascending pharyngeal.

Fatal Tonsillar Hemorrhage.—Dr. J. N. Hall reports a case which occurred in a man aged 26, who had suffered from re-

peated hemorrhage from the mouth as a consequence of acute tonsillitis. Styptics and pressure served to control bleeding. Eleven days later hemorrhage recurred with fatal result in a few minutes. It was supposed to be due to ulceration of a large vessel.—(*Boston Med. and Surg. Times*, Dec. 22, 1887.)

REPORT ON PHARMACOLOGY AND THERAPEUTICS.

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THE ACTION OF STROPHANTHIN.

Prof. Fränkel of Berlin recently read a paper before the Berlin Medical Society giving an account of an experience of strophanthin in twenty cases. Twelve were cases of valvular disease, nine of which were uncomplicated. Six were instances of aortic and six of mitral disease. The remaining cases were examples of functional disease of the heart and of chronic nephritis. From his experience in these cases he concludes that strophanthin is in a few cases an efficient substitute for digitalis. In the great majority of cases, however, it is much less effective. He found it to act better in cases of functional disorder (disorder from tobacco, alcohol or excessive work) than in cases of organic failure. He seldom found it cause any disorder of digestion.

In the discussion which followed the reading of Fränkel's paper, Guttman said that he had prescribed strophanthin in thirty cases, principally cases of advanced cardiac disease with generally heart failure. Usually he found its diuretic action well marked. He says, however, that it is not comparable with digitalis.

Langgaard, in his experiments on animals with strophanthin, noticed a marked difference in some particulars between its action and that of digitalis. (1) The action of digitalis in lowering the number of pulse-beats is usually very striking; strophanthin, on the other hand, seldom causes any marked reduction. As specially characteristic of the action of strophanthin he mentions an irregularity in the action of the heart beginning soon after its administration. (2) As to the action on the blood-

pressure, he has also noticed a marked difference between strophanthin and digitalis. Small doses of strophanthin have little or no influence on the blood-pressure, while large doses are very irregular in their action, sometimes causing a fall in the pressure, sometimes a considerable increase. Uusually, however, the former is more marked than the latter.

It is well known that the action of digitalis in increasing the blood-pressure is an almost constant one. It is only when exceptionally large doses are given, or considerable doses for a long period, that a fall in the pressure occurs.

Some difference of opinion has been expressed over the mode of action of strophanthin as a cardiac tonic. Haas looks upon this action as being brought about by the drug diminishing the resistance that the work of the heart has to overcome. The majority of recent writers, including Fraser, consider it a direct heart tonic.

There is every reason to believe that it has a direct action in stimulating the secreting structures of the kidneys. The experience of the observers who took part in the discussion might be summed up as follows:

(1) That strophanthin is a heart tonic.

(2) That as a heart tonic it is fairly certain in its action, but much less powerful than digitalis.

(3) In cases where digitalis has failed to bring about compensation, nothing can be expected from strophanthin.

SOME OF THE RECENT REMEDIES RECOMMENDED IN THE TREATMENT OF PHTHISIS.

In a late number of this JOURNAL reference was made to creosote and guaiacol as agents recently lauded in the treatment of tuberculosis, especially pulmonary tuberculosis. It was there pointed out how very improbable were the truth of such statements. The sulphuretted hydrogen bubble was of short-lived, and we fully believe that the creosote bubble will burst as rapidly and as completely.

Recently renewed attention has been directed by several observers to the alleged "anti-tuberculous" properties of iodo-

form. We frequently find in our German exchanges reference to the treatment of cases of tuberculous meningitis with iodoform. In some of these alleged cures the iodoform was applied in the form of ointment to the shaven scalp, while in other cases it was given internally as well as used externally.

Shortly after the introduction of iodoform into surgical practice it was strongly recommended by Mosetig-Moorhof in the treatment of tuberculosis of the bones and joints. He claimed for it a distinct action in these cases—an action distinct from its antiseptic action, and not possessed by any other antiseptic. To this action he gave the name of "anti-tuberculous."

Warfvinge publishes in a recent number of the *Deut. Med. Woch.* the reports of five cases of tuberculous meningitis cured by iodoform used externally. He employed it in the form of an ointment made with vaseline—one part of iodoform to five of vaseline—applied twice daily to the shaven scalp.

Physicians who have had any extended experience with tuberculous meningitis cannot place any confidence in these alleged cures. Reports, however, from other sources have been favorable to the action of iodoform in tuberculous meningitis, and as the treatment can possibly do no harm, it is advisable to put it to the test.

It is difficult, indeed, to understand how it is possible for iodoform to do good in these cases. Tuberculosis is a disease that is never likely to be cured by any agents which act as microbicides. The principles of the proper treatment of pulmonary or other form of internal tuberculosis lies in increasing the resisting power of the patient.

A paper recently read by C. T. Williams before the Royal Medical and Chirurgical Society of London illustrates the remarkable influence of residence at high altitudes on consumptives. The paper was based on the treatment of 141 cases of phthisis treated in sanitaria varying in altitude from 5,000 to 9,000 feet, in the Alps, the Rocky Mountains, and the South African Highlands, during the last nine years. In 41 per cent. of the above cases there was a complete restoration to health; in 30 per cent. there was great improvement, and slight improvement in 11 per

cent. of the cases; 13 per cent. died. In the remainder there was deterioration. The earlier the stage of the disease the more marked the improvement. The following were some of the conclusions deduced by the author from his experience:

1. That prolonged residence at high altitudes produced great improvement in the majority of consumptive cases, and complete arrest of the disease in a considerable proportion, such arrest being in a more or less degree permanent.

2. That in order to secure these advantages, patients must be free from pyrexia and all acute symptoms, and must possess sufficient lung surface to adequately carry on the process of respiration in the rarefied atmosphere.

3. That the influence of the climate seemed to promote a change in the lungs, either of a curative or destructive character, and to oppose quiescence.

4. That residence at high altitudes caused enlargement of the thorax, hypertrophy of the healthy lung tissue, and the development of pulmonary emphysema around the tubercular lesions, and that this expansion of the chest was accompanied by diminution of the pulse and respiration rate.

5. That it was probable that the arrest of consumptive disease was partly owing to the pressure exercised on the tubercular masses by the increasing bulk of the surrounding tissue.

6. That the above local changes were accompanied by general improvement shown in the cessation of all symptoms and the gain of weight, color and of muscular, respiratory and circulatory power.

7. That consumptives of both sexes benefited equally by mountain residence, but that the age of the patient exercised considerable influence on the result.

8. That the high altitude treatment seemed to be specially adapted in cases where heredity and family predisposition were present.

9. That the climate was useful in cases of hemorrhagic phthisis, and that hæmoptysis was of rare occurrence at the mountain stations.

10. That mountain climates were most effective in arresting

phthisis when the disease was of recent date, but they were also beneficial in cases of longer standing.

11. That the special effects of high altitude residence on the healthy and sick were common to all mountain ranges of elevations of from 5,000 feet and upwards.

12. That to ensure the full advantage of high altitude residence, a period of at least six months was necessary in the majority of consumptives. In cases of long standing and of extensive lesions, one or two years were often requisite to produce arrest of the disease.

13. That, in addition to the above examples, mountain climates were beneficial in (*a*) cases of imperfect thoracic and pulmonary development; (*b*) in chronic pneumonia without bronchiectasis; (*c*) chronic pleurisy where the lung did not expand after removal of the fluid; (*d*) spasmodic asthma without much emphysema; and (*e*) in anæmia.

14. Mountain climates were found to be injurious in (*a*) phthisis with double cavities, with or without pyrexia; (*b*) cases of phthisis where the pulmonary area at low levels hardly sufficed for respiratory purposes; (*c*) catarrhal phthisis; (*d*) erethric phthisis, or phthisis where there was great irritability of the nervous system; (*e*) emphysema; (*f*) chronic bronchitis and bronchiectasis; (*g*) diseases of the heart and greater vessels; (*h*) affections of the brain and spinal cord, and conditions of hypersensibility of the nervous system; and (*i*) where the patients were of advanced age, and where they were too feeble to take exercise.

Dr. Hennan Weber, who took part in the discussion which followed, said that he had a nearly similar experience in 106 cases of phthisis which he sent to high altitudes. He had nearly 40 per cent. of cure, and nearly 40 per cent. of improvement. He did not attach much value to altitude, except as making open air and exercise easy. He found equally good results from a residence in Frankenstein, which was not more than 2,000 feet above sea level.

Dr. J. C. Pollock desired to direct particular attention to the fact that Dr. Williams had excluded all cases of pyrexia, for, after all, he maintained this state was half the battle in phthisis.

Dr. A. T. Wise emphasized the marked effect of the mountain air in allaying the irritability of the respiratory passages and the good effects it had in stimulating the appetite and raising the patient's spirits.

Several of the speakers referred to the class of patients reported on by Dr. Williams. The cases were cases of the rich man's phthisis, and differed as much from the poor man's phthisis as does gout in the two classes. As a contribution to the value of climate in the treatment of phthisis, Dr. Williams' paper is very important and very suggestive. A great unsolved problem is, by what means can we obtain the same favorable results in the case of the poor man ?

Before long the physicians of the Royal Victoria Hospital of Montreal will, through the magnificent generosity of Sir D. A. Smith and Sir. Geo. Stephen, be placed in a position to test what high altitude can do for the poor man's phthisis. In connection with the hospital in Montreal it is their intention to found a convalescent home or sanatarium in the Rocky Mountains, where patients can be transported and treated free of charge.

THE INFLUENCE OF ETHERIZATION ON THE BODY TEMPERATURE.

Dr. H. A. Hare of Philadelphia, in the May number of the *Therapeutic Gazette*, gives an account of some very interesting and important effects of ether on the temperature of the body. In a series of twenty-six operations he found an average fall of temperature of about 2½°F., the greatest fall being 4.4°F. and the least .8°F. He concludes that the greatest factor in the causation of this very considerable reduction is the ether, and not the shock attending the operation.

The lesson to be learnt from Dr. Hare's observations is that means should be taken during the performance of operations to keep up the body heat. To leave the treatment of this state until the operation is over is, as Dr. Hare says, tantamount to "locking the door after the horse is stolen."

The importance of the application of external heat in preventing a fatal fall of temperature is well exemplified in experiments on rabbits with chloral hydrate. An ordinarily fatal dose

given to a rabbit whose external temperature is maintained by artificial means has little effect when compared with the same dose given without the employment of external warmth.

Reviews and Notices of Books.

On Some Points in the Surgery of the Urinary Organs. The Lettsomian Lectures for 1888.— By Reginald Harrison, F.R.C.S. London: J. & A. Churchill.

These lectures, delivered before the Medical Society of London last January, have already appeared in the London medical journals. Anything coming from such a recognized authority as Mr. Harrison on the surgical disorders of the urinary organs is worthy of great attention. The lectures are practical, giving the author's own experience and opinions. The first lecture treats of Urine Fever, Toxic Urine, and the Treatment of Urethral Stricture. He thinks the term "urethral fever" misleading, and prefers the term "urine fever," and proves by the citation of cases that the fever and other grave symptoms never occur after traumatism of the urethra until the urine has come in contact with the wound. So to avoid this urine fever after internal urethrotomy, Mr. Harrison advocates drainage by the perineum. In fact, Mr. Harrison's operation is a combined internal and external urethrotomy. In his hands the treatment has been most satisfactory. If urine was pent up, however, owing to the drainage not being free, then urine fever supervened.

The second lecture describes the pathology of enlarged prostate and the author's treatment of the various complications arising therefrom. He throws out the suggestion that the large prostate which exists in man is due to his assumption of the erect position, and that it represents the chief means of retention and support for the contents of the male bladder. Enlargement of the prostate he looks upon as more or less compensatory, and when in excess of what is required proves detrimental to the individual. In certain cases of enlarged prostate which are

difficult to catheterize, Mr. Harrison advocates drainage of the bladder through the perineum for from six to ten weeks. In doing this he divides the prostate to one side of the median line. After weeks of drainage the catheter can be easily introduced and occasionally, after the perineal wound closes, regular catheterism is not found to be necessary.

In the third lecture the author deals with the operative treatment of stone and tumors of the bladder. In speaking of supra-pubic lithotomy, an operation which is much discussed now-a-days, he holds that, although suitable for certain cases, as removal of large stones and foreign bodies, it is not going to supersede perineal lithotomy.

We have only hastily glanced at a few points of interest brought forward by Mr. Harrison in connection with surgical diseases of the urinary organs in order that our readers might form some idea of the great interest and value of these lectures which have been perused by us with much pleasure and profit. We heartily recommend this small work to all surgeons interested in the subject of which it treats.

The Surgical Diseases of the Genito-Urinary Organs, including Syphilis.—By E. L. KEYES, M.D. New York: D. Appleton & Co. 1888.

This, as stated in the title-page, is a revision of Van Buren's and Keyes's text-book upon the same subject. The work has been entirely rewritten. The surgery of the bladder and kidney, litholapaxy, and supra-pubic lithotomy are dealt with for the first time, and a very short, sketchy account is given of the operations on the kidney. In speaking of the operation of supra-pubic lithotomy, Dr. Keyes now advocates suturing the bladder wound, although formerly he was opposed to this practice. In his last three cases he has drained the bladder through a perineal puncture with tube tied in. He performs the perineal operation by puncture with a sharp bistoury or a staff with a broad groove; through this puncture he passes a probe, to which is attached a drainage-tube, and pulls it through by means of the abdominal wound. He leaves the perineal drain in for about a week. In

many places the descriptions of various operations are not very full. Cystitis is very hastily glanced at, and nothing is said of the modern methods of treating tuberculous diseases of the bladder. The work covers too wide a field, and so necessarily treats of many things in a superficial manner. On the whole, however, the subject-matter is well up to date, and the book will be found a very useful and trustworthy companion for the surgeon as well as the general practitioner. It seems to us to be a mistake to retain the second part on Syphilis in this practically new work. It would have been much better to issue it as a separate volume. The book is well printed and fairly illustrated.

A Treatise on Dislocations.—By LEWIS A. STIMSON, B.A., M.D., Professor of Clinical Surgery in the University of the City of New York; Surgeon to the New York, Presbyterian and Bellevue Hospitals, &c. With 163 illustrations. Philadelphia: Lea Brothers & Co. 1888.

About five years agoo a very creditable work on "Fractures" emanated from the prolific pen of our present author, and now he offers the sister volume on Dislocations. The author claims to have corrected a number of errors, some of long standing and wide circulation, which had been handed down from author to author and blindly accepted by each in turn. The part devoted to non-traumatic (congenital and spontaneous) dislocations is very fully written up. The illustrations are very good, and many of them quite original. Especially as a book of reference for teachers, it will be found of considerable value.

The Rules of Aseptic and Antiseptic Surgery. A Practical Treatise for the use of Students and the General Practitioner.—By ARPAD G. GERSTER, M.D., Professor of Surgery at the New York Polyclinic; Visiting Surgeon to Mount Sinai Hospital and the German Hospital, New York. Illustrated with 248 engravings and three chromo-lithographic plates.

Dr. Gerster is evidently an ardent disciple of Lister, at least as the German school interprets him. His favorite antiseptic is

therefore, of course, the bichloride solution, which is apparently used without stint. As the title would indicate, much space is given to the subjects of asepsis and antisepsis, the various methods of wound treatment being explained and largely illustrated. Several chapters are devoted to the diagnosis and treatment of Phlegmon and to "Tuberculosis," the latter having reference chiefly to the surgery of strumous joints. Strange to say, a considerable space has been found for "Gonorrhœa and its Antiseptic Treatment," and some half a dozen pages are devoted to syphilis. In our opinion the two latter subjects look somewhat out of place in such a book. Judging, however, from the great number of cases reported, the author has evidently had considerable experience in some departments of surgery.

As a picture book, it would be difficult to conceive anything more complete than this. The photographs of the operator and assistants are, as a rule, very good, although one tires of seeing the same faces often two or three times in the same page, while the patient and the part being operated upon are constantly indistinguishable. We would respectfully suggest to the author that, in the event of a future edition being contemplated, the *personnel* might be obliterated to a great extent and the essential features of the engravings made more distinct and intelligible.

The book will be found of value, especially to general practitioners in remote places, who are unable to reach the great centres for purposes of study and observation.

Transactions of the American Surgical Association. Volume the Fifth. Edited by J. Ewing Mears, M.D., Recorder of the Association. Philadelphia: Printed by the Association; P. Blakiston, Son & Co. 1887.

This Association, still in its infancy, has already done some excellent work. The present volume of nearly four hundred octavo pages contains some twenty papers and some illustrations, besides the discussions on the various papers. Among the contributors are the well-known names of Agnew, Gross, McGuire, Keen, Warren, Dennis and Packard. The two latter read papers on "Suprapubic Cystotomy," which are well worthy of careful perusal.

Selections.

Three Consecutive Successful Cases of Trephining.—(Under the care of Augustus Clay, Senior Surgeon to Queen's Hospital, Birmingham.)

CASE I.—J. G., aged six, was brought to the hospital on the 6th of September in a semi-conscious condition, having fallen out of a window, a distance of about twelve feet. Upon examining his head, a simple depressed fracture of the vault of the skull was discovered. The precise situation of the depression was the right parietal bone, a little behind the coronal suture and about three-quarters of an inch from the median line—thus corresponding to the upper part of the ascending frontal convolution. The patient became unconscious, and violent twitchings of the leg, arm and face of the left side soon occurred. The right pupil was dilated and inactive. Pulse slow, but not particularly full. When I saw the child, there was complete paralysis of the arm and leg, although the twitchings still continued in the face. The breathing was stertorous, very slow, and shallow—so much so that it was feared it would cease altogether. The sphincters had relaxed. Trephining was decided upon, and he was hurriedly taken into the operating theatre, where the operation was commenced by the usual crucial incision. It was then seen that a part of the bone, the size of half-a-crown, was simply depressed, with the exception of a linear fracture (half an inch long) situated at the anterior edge of the circular depression. A three-quarter inch trephine was applied, and a disc of bone (just taking in the fracture) was quickly removed, the surrounding bone being then easily elevated. There was a little hemorrhage, which was allowed to continue to relieve the venous congestion; after which the wound was syringed with corrosive sublimate lotion (1 in 2,000), a drainage-tube inserted, and the edges brought together by silver sutures. Dressings of absorbent tissue, moistened with boroglyceride, were used. Almost immediately after the bone had been raised, the left arm and leg became convulsed, and the twitchings already existing

cient to cover a florin, were removed. The dura mater was perforated, the brain contused, and covered with blood at the seat of the injury. Perchloride of mercury lotion (1 in 2,000) was used; a drainage-tube inserted; stitches being put in the scalp only. Absorbent gauze, moistened with boro-glyceride and covered with gutta-percha tissue, was the dressing employed. A saline purge was administered six hours after the operation. The diet consisted for ten days of milk and soda-water, after which fish was allowed. The head was dressed daily. The wound healed primarily, with the exception of the part in contact with the tube, which was shortened at each dressing, and finally removed on the fifth day. On the eighth day the temperature, which was otherwise normal, rose to 100°; the patient seemed somewhat depressed, and complained of pain in his left eye. The eye was kindly examined by my colleague, Mr. Priestley Smith, who reported it to be healthy. From this date the patient progressed very satisfactorily, and was discharged on the eighteenth day from the injury. I saw him four months later, when he was quite well, and had not experienced a bad symptom since he left the hospital.

Case III.—J. R., aged 36, was received as an in patient on October 27th, 1887, having met with an injury to his head. He was quite conscious, and gave the following account of the accident: While at work with a forge-hammer, a pin or bolt required to be readjusted, and he stooped down for that purpose. Unfortunately, he reached too far forwards, and so placed his head partially between the steam hammer (weighing 10 cwt.) and the anvil. The blow was directed obliquely, the force knocking the patient from under the hammer and against another part of the machinery, causing a small scalp wound over the occiput, but not exposing the bone. He was stunned for a while, but soon recovered himself, and walked to one of his fellow-workmen for assistance. On examination, there was found a contused wound of the forehead one inch and a half long over the left frontal eminence, and the bone in a corresponding situation was found depressed for nearly a similar extent. Hemor-
ath the conjunctivæ and into the

eyelids, which soon became discolored and so prominent as to obstruct the sight; there was no paralysis of the orbital muscles, nor hemorrhage from the nose. The patient was placed under chloroform, and an incision one inch long was made at right angles to the original wound, but only intersecting one side of it. The pericranium having been raised, a three-quarter inch trephine applied, and the disc removed, six pieces of bone, varying from one inch and a quarter in length and half an inch in width were then taken away. It was observed that the bone on one side of the cavity was fractured and depressed (after the manner of "gutter fractures"), but was not quite separated. This was with some difficulty elevated, and allowed to remain. A linear fracture extended antero-posteriorly for some distance beyond the seat of the depression and the limit of the incision. The dura mater apparently was not injured. The wound was antiseptic ised with lotio hydrarg. perchlor. (1 in 2,000), five silver sutures put in the scalp, and a drainage-tube inserted. Dressings were similar to those used in Case II. The tube was shortened daily, and permanently removed on the sixth day. The patient got up on the fourteenth day of the accident, and was discharged three days later, having made a most uneventful recovery.

Remarks by Mr. Clay.—Case II is very interesting from a surgical point of view, inasmuch as he was trephined eleven years previously by my colleague, Mr. Wilders. He had a "buffer" injury to his occipital region, causing great comminution and depression. As far as I am able to learn, this case is unique for its double successful trephining.—*Brit. Med. Jour.*

A Case of Intestinal Obstruction, with Rupture of the Bowel.—W. V., a grocer's assistant, aged about 29, sent for me early one morning in July, '85. He stated that on the previous evening, when chopping up firewood, he felt a pain in the stomach, which had continued until morning. There had been slight sickness, but the bowels had not acted for twelve or fourteen hours. I found the patient in bed, complaining of pain in the hypogastric and right inguinal

and lumbar regions. The pain was increased by pressure in the hypogastric region. There was no marked dulness or tumor. An aperient pill and dose of castor-oil were given, but both were rejected with vomited food. The castor-oil was repeated, and one pill of opium (half a grain) and belladonna (quarter of a grain) given every three hours. In the night vomiting was distinctly greenish and sour. As there was no action of the bowels, an injection of soapy warm water, castor-oil, and turpentine was given. This succeeded in clearing out the colon, and it was followed in six hours by a very slight action. Vomiting continued every few hours. The abdomen was increasingly tender, and there was dulness over an area of four or five square inches to the right of the umbilicus, and three inches below. There was slight tympanites. No improvement followed, and the patient having been removed to the hospital, it was decided at midnight (four days after first symptoms) to operate. The patient was almost moribund, the abdomen was greatly distended; temperature 104.5°; pulse 135, and quite characteristic; respiration was short, rapid and labored. The A.C.E. mixture was administered. The usual median incision was made through the abdominal wall, and afterwards carried two inches above the umbilicus. (By the courtesy of the surgeon of the hospital, I was asked to assist in the operation.) The peritoneum was carefully divided on a grooved director. No sooner was the abdominal cavity thus laid open, than out there gushed a large volume of horrible fæcal gas, followed by a copious outflow of thin yellow-greenish fluid, containing a quantity of flakes of lymph, and bits of fæcal matter. The small intestines were distended with gas. The peritoneum was intensely injected. We baled out the abdominal cavity with a teacup. Then slight bilateral pressure caused a small fountain to well up from the deep part of the abdominal cavity. Taking this fountain for my guide, I passed the index finger of my right hand through the aperture into the bowel, upwards and downwards. I strongly advocated resection, but was overruled, and consequently sewed up the parietal wound. The man to all appearance seemed on the point of expiring. The wire sutures all in turn gave way, quantities of

fæcal matter and fluid continued to escape from this wound for several weeks. The ruptured bowel became disengaged, and rose to the surface of the parietal (operation) wound. The latter became agglutinated in a mass of granulations. The abdominal cavity was once more restored. Fæces passed *per anum*, and the patient, passing through a long convalescence, escaped with a very small fistula, the size of a hempseed, and is now otherwise in the enjoyment of perfect health and strength.—*Dr. T. P. Harvey, in Brit. Med. Journal*, April 28, 1888.

A Case of Intestinal Obstruction; Localised Peritoneal Suppuration. INCISION, WASHING OUT, AND DRAINAGE; RECOVERY.—(Under the care of Mr. Walsham, St. Bartholomew's Hospital, London.)

R. D., aged 32, was admitted on January 20th, 1888, under the care of Mr. Walsham, to whom he had been sent on the recommendation of Mr. T. H. Evans.

On the evening of January 18th, while sitting still after an ordinary meal, he was seized with great pain in both inguinal and umbilical regions, accompanied by swelling and tension of the lower part of the abdomen and rumbling flatus, followed by retching and sickness. The vomit began to be stercoraceous on the morning of January 19th. He had suffered from inguinal hernia on the right side since he was two years old, and wore a truss till he was seven. During youth and ever since he had been troubled with occasional attacks of giddiness and vomiting until about six or seven years ago, when they gave place to attacks of abdominal pain, centering in the umbilical region, transient in character, and unattended by intestinal obstruction. The hernia had frequently descended, but had never become strangulated, and had always been replaced, though often with difficulty. No blood had ever passed *per anum*. Four months ago he was seized with pain and swelling in the abdomen, with inability to pass motions; this condition was preceded by motions of small calibre for about two days; it lasted ten days, during which salines were given, and then a drastic purge. The illness left him very weak. The motions had since been no thicker

than his little finger, and passed generally twice a day. He had repeatedly of late tried to do his work, which was laborious, but was always disabled by increase of pain in the abdomen. His family history was good.

When admitted, the patient looked pale and ill, but said he had always had great muscular strength. There was moderate distension of the abdomen, with some muscular tension, equal on both sides, but with slight fulness over Poupart's ligament on the right side. On percussion, there was comparative dulness in the right inguinal region. The pain was also greatest there, but was great everywhere below the umbilicus on the slightest pressure; there was dull pain at all times. The rectum was normal. No hernia could be felt, and the external ring was enlarged. The vomit of the previous night (small in quantity) was thin and bile-stained. No fæces had passed at all during this illness, but a little flatus after an enema. The breathing was shallow and mainly thoracic. The temperature was 98°, rising to 100.4° at 1 P.M.; pulse 108; respiration 24; urine acid, specific gravity 1035, slight albumen. The abdominal organs could not be examined owing to tenderness of the abdomen. Tongue fairly clean. Opium and belladonna were given; small quantity of ice to suck; no food.

From this date up to January 27th, the abdomen continued in much the same condition, the tenderness and swelling, however, becoming more localised to the right iliac fossa, and the skin in this region appearing mottled-red and very slightly œdematous. After an enema, given on January 24th, a scanty motion was passed; and from this date till the 27th several motions were passed daily. He was given at first only half a pint of whey a day, but subsequently half a pint of milk was added to the whey, and still later increased to a pint, as the vomiting did not return. The temperature never rose above 101°, and varied from day to day between this and normal. The pulse continued of fair volume, and varied from 88 to 112.

Jan. 27th.—After a consultation with Mr. Willett and Mr. Baker, Mr. Walsham decided to explore the abdomen in the right inguinal region. An incision was made, beginning half an

inch above the middle of Poupart's ligament, and running parallel to it outwards for two inches. The abdominal muscles having been severally divided, the peritoneal cavity was carefully opened and about a pint of dirty yellow pus, with a strong fæcal odor, was let out. The cavity was irrigated with a solution of iodine, decolorised with carbolic acid, till the fluid flowed away perfectly clear. It was then found that the cavity was bounded by highly inflamed and matted-together coils of intestines. The cavity extended towards the middle line, but in a downward direction further than the finger could reach, and into this the irrigating tube was passed for about eight inches. A similar sinus, between coils of adherent intentine, also extended in an upward and inward direction, and further than the finger could reach. A large-sized drainage-tube was placed in the cavity, and the wound sprinkled abundantly with iodoform and dressed with iodoform gauze and wool. On the morning after the operation, the temperature had fallen to 98°, and the pulse was 100, of fair volume and strength. Locally the wound appeared quiet, and the washings from the cavity were clear. There was no pain nor tenderness, the patient expressed himself as feeling very comfortable, and was in excellent spirits. From this date he made a progressive and uninterrupted recovery. The tube was gradually shortened as the cavity slowly closed from the bottom.

On February 1st, slop diet was changed for fish, which was on the 3rd replaced by meat diet. On the 15th the wound had healed, and the patient was discharged in excellent health and spirits to the Convalescent Home at Swanley.

Remarks by Mr. Walsham.—The cause, I believe, of the obstruction was inflammation in and around the cæcum; and, from the frequency with which, on post-mortem examination, such recurring attacks of typhlitis have been shown to depend on mischief of some kind in the vermiform appendix, it is probable that this might be the primary cause. On the patient's admission, the question of opening the peritoneal cavity in the region of the cæcum and exploring the condition of the parts was raised; but, on the whole, it was considered, at a consultation that was held, that it would be better to wait for a few hours.

As, under the influence of belladonna and opium, and the total abstinence from all nourishment, the acuteness of the symptoms subsided, the vomiting ceased, and the bowels were relieved, while the general pain and tenderness over the abdomen became less, the exploratory incision was put off till it became fairly clear that suppuration had occurred. From the condition of the cavity when the peritoneum was opened, and the length of the sinuses extending amongst the inflamed intestines, it was evident that there was extensive peritonitis, involving more or less the lower half of the abdomen. In one direction the irrigating tube was passed fully eight inches into the peritoneal cavity amongst the intestines, and the lower portion of the peritoneal cavity was thoroughly washed out. The case was clearly more than one of a mere localised peritoneal collection around the cæcum; and although the inflammation undoubtedly started at this spot, it had extended, as manifested both by the symptoms and the state of the parts found at the operation, more or less over the whole of the lower half of the abdomen. This case in many respects appears similar to those described by Mr. Treves, Mr. Marsh, and others, and is, I think, another example of what may be accomplished by washing out in suppurative peritonitis.

On two other occasions I have opened the abdomen for peritonitis, and attempted washing out. In neither of these cases was there suppuration. I found the sticking together of the coils by the lymph prevented the free passage of the irrigating fluid amongst them, and in no sense could a thorough washing out of the peritoneum be said to have been accomplished. The condition of the patients was too serious to permit of any extensive exposure with a view of supplementing irrigation by sponging. Both cases ended fatally. In such cases, I fear, little can be expected from this procedure.

A Sketch of the Progress of Surgery.—From the broad field of surgery there are many lines of inquiry which might interest its devotees if properly followed. But to treat of any one of them implies special study of the new developments that now abound in the great advances in

the arts and the sciences whose discoveries it employs. On a former occasion your reader occupied the same relation to you that he does at this moment. He then prepared himself for the occasion by a series of experiments *in corpore vile*, to illustrate the subject of blood infusion. He believes he had the good fortune to add a thought to knowledge on this topic. It seemed to him that a general view of the relation of surgery, and the surgeon, to the community in which he lives and has lived might be of sufficient interest to justify the spending an hour in its review. This must revive well-known stories, and allude to present movements familiar to all; but they contain triumphs which always stir the heart of the true surgeon. Pope in his mellifluous couplet, which has pleasantly rung in the ears of every physician from his youth up, has interpreted the views of Homer of three thousand years ago, when he sang that

> "A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal."

Then, as now, the surgeon was most prominently connected in the public mind with the treatment of wounds of accidents, or those of his own making.

Recurring to the subject of wounds, we can, perhaps, at no one point get a better illustration of the movement of discovery than in the changes with reference to their management, and especially of those that the surgeon inflicts in performing the amputation of a limb. It would be idle, in the few minutes at my disposal, to follow accurately even this one line. The attempts at primary union have seldom been other than partial, until the advent of the modern antiseptic methods. In the early part of this century, experiments upon the encysting of ligatures for closing the arteries were tried and abandoned. The movement from the open weund, of necessity, to the closed one antiseptically treated with soluble ligatures and sutures has been long and slow. We had almost come to the definite conclusion to make the open wound as the final judgment of the profession. Hippocrates avoided amputation except in cases of gangrene. In his day it was full of terror. Indeed, there could not be said to be any amputation as we understand the process. Limbs

that were crushed or injured by compound fracture were allowed to get well or to mortify. When gangrenous, after the red line was formed, it was made at the border that Nature had decided on as the place of separation between the dead and the living. Such delays in the treatment of severe injuries, with our knowledge, would be simply criminal. But when gangrene has occurred, and we wait as we must, except in certain rare conditions generally understood, I am in accord with the custom of Hippocrates. This places me in contrast with a practice almost universal. But, singular as it may seem, an antiseptic dressing will complete the measure of safety incident to the amputation through the dead part.

Reasons for this belief are easily stated, and, of course, are not those founded on the fear of amputation through the living parts as a general measure. But when the red line has formed, Nature has already made the amputation. Following an irregular line, which is lowest down in the integuments and bone, the separation has been made between the dead and the living tissue. The danger arises from the retention of poisonous fluids in contact with tissues now full of vitality. An operation of necessity can be made, closely following the line of demarcation, and it will be found that the endosteum retains its vascularity nearly, if not quite, as far down as the integument does. These are the two factors of an amputation indispensable to its success. The muscles, and especially the fascia and aponeuroses, as well as the periosteum, are apt to die. Deep recesses following the connective tissue will be filled with pus and septic fluids. The amputation may be made as described, with far better hope of success, than higher up through the living tissues. The special dangers of amputation through them are avoided. There are no vessels to tie, there is no fresh absorbing surface to be poisoned by its own secretion, there is no danger from hemorrhage, and more than all, in the enfeebled condition of the patient, there is no shock. The deep recesses are now exposed and can be cleansed. Absorbent cotton, moistened with a solution of mercuric chloride, pushed into the open spaces, at once attracts, by capillary attraction, all the fluids. When the suc-

ceeding dressing is undertaken, it will be found that every part has the appearance, and, indeed, the reality, of having been washed clean. The irregular surface is, however, a granulating one, and for this reason alone has become one that is essentially protected from the dangers of sepsis as soon as a free escape of the fluids can be effected. The periosteum, if destroyed, may result in necrosis of the outer shell of the bone. But the endosteum will maintain it in its integrity sufficient for the length of the stump. The wound being necessarily an open one, closes slowly.

It will be seen that the observation which I urge upon your attention is a return to the ancient method, with two thoughts added to it, which, in my judgment, should change our practice in these cases. They are, as every surgeon knows, fraught with great danger when the amputation is made above, in the living tissue, for the shock of amputation in the enfeebled state is frequently fatal. The custom of the ancients was to pick away the dead part and divide the bone high up. They were anxious to disarticulate if the line of separation had gone to a joint. One stands aghast at the shapes their stumps must have assumed. In recommending the open wound in these cases, I only do so at points where a proper stump can be made. Take, as an illustration, gangrene commencing in the foot and stopping on the leg four or five inches below the knee. According to our custom, the amputation must be made through the thigh. But the danger of such an amputation is vastly more than by the Hippocratic method, at the red line, and the lower stump is far better. The choice, in my opinion, should be made at the red line, if possible.

The advent of the gunshot wound occurred at a time when the practice of surgery was at a low point; and the effect of the "villanous gunpowder" was regarded with just grounds of terror. The terrible results were ascribed to poison. Both the lead and the gunpowder were poison. How could such fatality occur unless from poison? Poison wounds should be treated with the hot cauterizing iron or boiling oil to destroy the infected surface. The bullet must be extracted, if it be possible; its poisonous character could scarcely be borne by the constitution. The

surgeon with such views would be apt to complete the work of the soldier. But time reforms medical as well as other opinions. If easily extracted, all foreign bodies should be removed, even with the present views of the innocuous character of the bullet. This has always been accepted, and expectation has been the practice for a long time. But now we have antisepsis of the track and careful covering of the wound to guard against microbal invasion. How far this may be carried is yet unknown, but great advance has already been gained. It is, however, of recent date that the greatest steps have been taken in the management of this special form of wound. Among the most notable are those announced from this platform. The facts are all known to you. The great cavities of the body have heretofore been deemed unapproachable. It was believed that the surgeon, if he undertook their exploration, would render certain what was almost sure to happen. In gunshot wounds of the abdomen there might, perhaps, be one life saved while ten were lost. Why should this meagre hope be denied?

But all this is changed. I do not report, but only allude to the marvels that are detailed by Drs. Parkes and Senn, marvels that we could only know by the use of vivisection, which, fortunately, has not yet been submerged under a sea of maudlin sentimentality. Here, again, we have the triumph of cleanliness. A gunshot wound of the intestine will inevitably result in the expulsion of some of the contents of the bowels, the vermicular motions of the intestines will surely secure this result, even if, after a while, these motions are arrested, in obedience to the law of inflammation. The cases of recovery were probably those where a fortunate apposition of the wound near the abdominal walls circumscribed the area of pollution and Nature's active efforts at repair completed the line of circumvallation. The case of the insane woman in Utica Asylum who punctured the abdomen and drew out a piece of the small intestine, fourteen inches long, and cutting it off with a pair of scissors, threw it on the floor, is widely known. The physician in attendance knew of nothing but expectation in such an emergency. He drew the edges of the abdominal wound together, and waited the event.

No remarkable symptoms supervened. The recovery was complete. Many years after, an autopsy revealed the fact that the edges of the intestinal wound had been fastened to the abdominal wall. But such results are too rare to be guides of conduct. The new methods are already accredited with improvement, and as the courage and better diagnosis of the surgeon improve, we shall inevitably place the treatment of these wounds by laparotomy upon a sure foundation.

Every surgeon has seen cases of strangulated hernia where gangrene has supervened, and will bear testimony to the fatal character of the injury. Now, for the relief of this condition enterorrhaphy comes in to take its place as a recognized operation, with large increase in the saving of life. Again, cleanliness is the pivot upon which the whole movement turns. It seems incredible that the peculiar kind of filth that invades the peritoneum in gunshot wounds of the intestine can be removed sufficiently to secure even such results as have been obtained. Antiseptics of proper strength over this immense surface are dangerous expedients. Are we to see a stream of distilled water, rendered properly saline, carried into and out of the peritoneal cavity long enough to insure cleanliness? Are we to irrigate the surface after inflammatory exudates have actually appeared? The possibilities seem large. That these exudates, when extensive, may accompany a fatal inflammation without the formation of the dangerous ptomaines of microbal creation, it seems to me to be manifest. In the experiments by Dr. Parkes on dogs, one fact is to be especially noted: the frequency of the existence of entozoa and their migration through the wound. It has been my fortune to witness two deaths from rupture of the intestine by external force, without a wound of the abdominal wall, not even a break in the parietal peritoneum. One was in a child of six years of age; the other in a man of forty. The child died in twenty-three hours, and the man in twenty-six. Autopsy revealed a fact exactly the same in each case. The fibrinous exudate of a character sufficiently firm to be lifted upon the handle of the scalpel had extended over the whole surface of the peritoneum, even to its remotest corner. It is a little odd, also,

that a single lumbricoid worm had crawled through the opening in both cases. The fibrinous material had probably acquired its firmness many hours before death. It is hardly credible that much pathological change could have occurred during the latter hours of life.

Just fifty-one years ago, during my student days, I had the pleasure of an invitation from Prof. Mütter to witness the first operation on the tendo-Achilles in Philadelphia, and, as I believe, on this continent. It was his second operation. The antecedent one was upon the ham-strings. Still a young surgeon, he was especially patronized by Dr. John Rhea Barton, who, upon the then recent death of Dr. Physick, was by common consent recognized as the surgical chief of Philadelphia. Dr. Barton protested vehemently against the operation and refused to witness it, being unwilling to give his countenance to anything that was so dangerous. It would certainly blight Mütter's prospects in life. Moreover, the interests of the patient should stand first and he could not be a party to anything so contrary to good surgery. The great fact of the immunity from suppuration when subcutaneous incision is made had not yet impressed itself upon the surgical mind. The vast value of direct repair had acquired its recognition under the guidance of John Hunter, but the value of the subcutaneous cut was not appreciated. This marks one of the most magnificent of all surgical movements. The rationale was to be explained to-day. Antisepsis is the legitimate descendant of the subcutaneous cut. The tenotome would almost surely be cleansed as it passed through the skin, and the minute wound would be washed by the few drops of extruded blood. This was clearly our antisepsis. Was not Dr. Barton justified by his experience? With our knowledge his conclusions reached the depth of absurdity. But had he not seen tendons sloughing when exposed to the air? Had not cases enough of accidental incision of the tendo Achillis been reported to prove that if the life, always in danger, was preserved, the limb was likely to be useless from the loss of its great tendon? The surgical world woke to a great fact, and strabismus, torticollis, and all contracted tendons came under the surgeon's knife,

until it became almost a craze, when Guerin, for the relief of lateral curvature of the spine, cut every spinal muscle and tendon that he could define, until the chain of bones could be moved like a serpent's back.

At the meeting of the New York State Medical Association last September I led the discussion upon the proper method of treating compound dislocation of the ankle-joint. I found the opinions of surgeons on this point very indefinite, with a strong, even an uncompromising judgment in favor of amputation; notably by Prof. Gross, who would make rare exceptions to this plan. Others advised reduction and a few relied on resection, some of the tibia and fibula with removal of the ends of both bones with their malleoli, while others removed the surface of the astragalus also. Even the most modern writers left the whole subject in a vague way to the judgment of the practitioner. These authors were quoted to show their various opinions, but it would be out of place in this paper. For a long time I had been convinced of the great wrong inflicted by these teachings, which were founded on the statistics of hospitals in large cities before the day of antiseptic surgery. Such advice was even then not applicable to the condition of life in the country and smaller towns, where purer air and better constitutions existed together. I had used resection with good results in three cases, and had seen two cases in consultation which had been simply reduced by the surgeon in attendance. The latter made good recovery after a considerable constitutional disturbance, but by ankylosis. But before writing my paper, I had the good fortune to see a case that had been treated hy a young friend (Dr. P. G. Udell), which seemed to me an almost ideal result. The foot, movable through a little more than half its normal extent, and free from pain in walking, was enabled to execute its function by the formation of a flail-joint after the resection of an inch and a half of the tibia and fibula. The novelty of the method consisted in leaving the two malleoli attached to the astragalus and bringing their fractured extremities in contact with the resected end of the bone. Granulation was the result, of course. Drainage and carbolic acid solution were employed to secure antiseptic results.

Six months reflection and experience have induced a change in my opinion as to resection of the malleoli in these cases. I would now, in nearly all, reduce and rely on cleanliness and antisepsis. There are cases, of course, where the crush is so severe that there can be no doubt. But when the rupture is great, better opportunities are given for the inspection of the surfaces than when the opening is small. The resection may be secondary and the amputation tertiary.

The microbal discoveries of Pasteur and Koch and their disciples have placed all of our therapeutics on a new basis. The subject is trite, we hear of little else. No one knows when a real discovery is made how far it will reach. It always seems to run like a thread through the woof of all knowledge. How can we measure the scope of a piece of glass ground to a lens? The spectroscope was a mere philosophic toy at first; what now? The analyst of the sun as well as of the blood. No one can now measure the possible triumphs of surgery. That which was excellent yesterday must be abandoned to-day. I confess, after long years of practice, to a delight that has the glow of youthful enthusiasm when making a resection of the knee under the use of mercuric chloride, and closing up the wound with silk sutures and applying drainage-tnbes in each corner of the wound and then covering the whole with absorbent cotton saturated with the same microbal enemy; to remove the whole at the end of two weeks with complete closure, every suture encysted and not a drop of pus. Of course there was no fever, only physiological repair. Or even to witness, perhaps, a more difficult feat in a much more common condition, the neat apposition of the tissues of a hand lacerated by machinery, while a stream of the antiseptic solution flows over every part, and the retention of these tissues in their proper position is effected by sterilized catgut, the whole protected with absorbent cotton saturated with the solution. At the end of a fortnight the sutures have disappeared, the repair complete, without a drop of pus. Such are now the experiences of all of you, and need no enlargement of statement. The surgical atmosphere is now antiseptic. Lister must now take his place beside Jenner. For the time he has

added a word to the language, and we do not mean merely carbolic acid and the spray when we speak of Listerism. There is already a wide range of material to choose from.

It is, however, obvious that there is a constant tendency toward the employment of the mercuric chloride, notwithstanding the objection raised by Prof. Billroth and his preference for iodoform. Its accessibility, its inodorousness and enormous power as a germicide will easily account for this. The natural fear of its powerfully toxic effect has rendered us all cautious, but more knowledge of good methods is expanding its application.

Who has not dreaded the care of a compound fracture of the thigh? But now we have report by Professor MacEwen of one thousand cases of osteotomy and no bad results. Who a few years since could have accepted the statement that the bone could be cut and crushed, the surface broken and driven into the texture of the bone above and below, and yet remain absolutely free from the danger of necrosis and ready for union? The operation is essentially subcutaneous. But Dr. Hahn of Berlin boldly incises the soft parts and exposes the surface of the tibia under a stream of mercuric solution, regarding this operation as secure as the subcutaneous cut, and as the parts can be seen they are more susceptible of proper management. In all these cases merely the quiet necessary to physiological repair, with its antiseptic covering, comprises the after-treatment. Its simplicity and rapidity of result amaze one. Perhaps, however, the best illustration of the value of the treatment that renders wounds aseptic is to be found not in those that MacEwen has made, but in those that have resulted from accident, which we recognize as compound fractures. They are at the deepest part of the limb and present every form of wound in the same case known as incised, punctured, lacerated, and contused. They have always been the terror of the surgeon.

At present the record of the triumphs of antiseptic surgery flows from every hospital. It would be burdensome to quote much, but the tables of Volkmann give at a glance the whole history of the modern leap in surgery. It has always been the misfortune of old hospitals to be the places where the greatest

mortality would ensue when a wound was to be treated. It is not necessary to enforce this statement by any large collection of statistics, but I cannot pass by the consideration of this subject without quoting the extraordinary tables of Volkmann. He has collected the facts from the hospitals of Germany and England, and found that the results in all were similar in a very remarkable degree. He found that of 885 compound fractures of the limbs, 339 deaths resulted, whether preserved or amputated, being 38½ per cent. This in civil life. In military hospitals the percentage was $23\frac{6}{10}$. The difference may be easily accounted for by the fact that many of these were recently constructed and often extemporized, and also that the average age of the subject was during the firmest periods of life. The approximation in results in the various civic hospitals is shown very simply.

In Gottingen,	the mortality	was	38	per cent.
In Zurich	"	"	$38\frac{7}{10}$	"
In Breslau	"	"	$40\frac{5}{10}$	"
In Halle	"	"	$40\frac{6}{10}$	"
In Bonn	"	"	$41\frac{8}{10}$	"

Since the adoption of an antiseptic method, Volkmann makes report of 75 cases in 73 patients with compound fractures and many with injury of the joint, and not a single death. Of these there was the extraordinary number of 21, or 28 per cent. of all cases; 11 of these were treated conservatively, and there was but 1 that resulted in ankylosis; 1 was a shoulder-joint which was resected; the elbow-joint was opened six times, of which there were made one primary and three secondary resections; 2 were treated conservatively; the knee-joint was opened four times and treated conservatively; the ankle was opened 6 times; 2 were treated by secondary resection; 1 by amputation; 3 were treated conservatively. The management was simple. In the first place protracted drenching with water, the removal of spiculæ and trimming sharp ends of bones, enlarging the wound always enough to allow exploration with the finger, and then causing it to gap by retractors, while the drenching was going on, not stopping until the last coagulum was disposed of; then completing the irrigation by a drench of carbolized water. After

the proper replacement of parts the whole was covered with abundant layers of carbolized gauze, and kept free from accumulation of fluids by drainage tubes. Most of the cases were seen a few hours after the injury. Five, however, were treated after a delay of forty-eight hours.

The great achievement of the day, however, is by common consent the marvellous growth of laparotomy. During my early career, the removal of an ovarian tumor, notwithstanding MacDowell's success, was stigmatized as murder, which, indeed, it seemed very often to be. Dr. Atlee was fiercely denounced for his efforts to bring this operation into the ranks of legitimate surgery, which he lived to see fully established. But through what a valley of death have the wonderful results been obtained. It is now but fourteen years since Keith electrified the whole surgical world with the report of ten consecutive cases and only one death. Two years after Dr. Atlee remarked to me, after performing an operation of this kind, that if it should succeed it would be the tenth consecutive good result. It, however, failed. By what slow approach have we arrived at the present simplicity of operating. The manipulation is simple, but delicate beyond the necessities of ordinary surgery. How difficult to apply what we call experience. Surely every surgeon had seen enough of the danger of opening the peritoneum, to fear its terrible inflammation, which we have often seen run over the whole immense surface, even to its remotest recesses, beginning at a wounded point. Experience was ample. How could we dare to defy the results of such knowledge? But from the recognized fatality of the tumor, and the distressing condition under which life was maintained during the latter period of its existence, we should have known but little of the dangers to be avoided and how to combat them. How long a time it required to learn that, after all, it was not peritonitis that we were chiefly to fear. We had to learn that the whole immense surface was but little else than the expansion of the lymphatic system, as the skin is of the nervous one. And when the blood, mixed with the contents of the sac that had been left behind, excited first a secretion from the surface for their solution preparatory

to their absorption according to the natural law for their disposal through the blood, we encountered on the autopsy the fearful red serum.

Too much was to be done. Even our therapeutics misled us. I still accept the correctness of the opium treatment in genuine non-traumatic peritonitis. We owe a great debt to Dr. Alonzo Clark for the careful development of its excellence in this condition. But our pathology was a mistaken one, and I cannot but think that the mortality is increased in the cases first mentioned by the use of opium. How much to unlearn and how hard in the face of our experience ?

Who has not looked into the peritoneal cavity during an operation and hardly dared to touch it, preferring to leave some blood and sac contents rather than touch the inflammable surface. But the death of Keith's eleventh case struck the keynote. The peritoneum must henceforth be clean. To our astonished gaze the membrane could be sponged, and washed, and dried, and then it quietly removed the small amount that the sponge could not absorb. From this time the death-rate diminished in the hands of every operator, and the note has become universal that the basis of all antisepsis is cleanliness. Even the exudation from peritonitis must be removed, according to Mr. Tait, who has for this condition washed out the cavity with water that flowed from the city tap, and which, according to a friend with microscopical knowledge, contained " thirty-six different kinds of beasts." " You reject antiseptic medication," said I to Mr. Tait, who replied: " Yes, it is all rubbish ; there is but one antiseptic that I know of." " Pray, what may that be ?" " Soap and water." Again it is cleanliness. It would be idle to say that surgeons did not esteem cleanliness as going a long way before godliness in operations. But it was not of the precise and thorough kind that was demanded.

I will leave the statistics that Mr. Tait has given us out of our consideration. They transcend those of all others who have undertaken to follow in his footsteps ; so as to lead one to believe that there are some problems unexplained. The operation for the removal of an ovarian tumor is by common consent, in its

various conditions, at times the most difficult one of execution that ever comes under the hands of the surgeon. At other times it is the type of simplicity. These circumstances give an opportunity for a wide difference in the results of operative procedure intended to be similar. There is a preponderating opinion that direct antidotes to the processes that seem to control the poisonous results of suppuration increase the percentage of favorable termination in cases that have been operated upon. Their use marks another step in the treatment of wounds accompanied by exposure of the peritoneum. Mr. Tait's results are to be regarded as unique, and surgeons are not likely to omit proper antiseptic measures. We are still in the midst of change, but the splendid record of expert operators, as we all know, has removed this operation from a mortality that seemed murderous to one that is less than any operation of a capital character. That this result has been obtained by constant attention to the action of natural law is too obvious to be denied.

Several years since I removed a uterus containing a fibroid weighing seventeen pounds. The cut extended nearly the whole length of the linea alba before it could be drawn through it. The vessels were ligated on the sides, and then I carried out my device for managing the stump and guarding the peritoneum from the presence of the dreaded foreign body in the shape of ligatures or sutures. A slight incision was made all around the huge mass about three inches from the vaginal junction. This was dissected down and all around to nearly the point above mentioned. The vessels were easily seized and the blood was readily prevented from passing into the cavity of the peritoneum by the cup-like form of the cut. Amputation was made about an inch from its junction with the vagina, and at this point it had, of course, become small. But little blood flowed from this last procedure, for the vessels had already been secured. After hemorrhage had ceased the edge of the cup-like pedicle was pocketed in the linea alba. Thus peritoneal surface was brought against its congener. The intestines had fortunately been kept covered by the abdominal walls. Union of the wound in the linea alba was perfect. A drain down through the neck of the

uterus seemed to me the most perfect of appliances. I fondly hoped that this was all that could be desired. But I had at this time no means of antisepsis. Now Péan, as reported by Dr. Senn, closes over the stump with catgut sutures, after having extirpated the mucus membrane of the neck, and brought the abraded surfaces together by a sort of autoplasty, and drops it back into the pelvis. As an operative procedure this seems to me to be final.

But the exposure of a joint to the atmosphere is far more apt to result in inflammation, with a tendency to suppuration, than the peritoneum. But now we follow the nests of bacilli into the joint with a sharp spoon, and filling all nooks with an antiseptic solution, close the capsule with the assurance of freedom from any active inflammation, especially of a suppurative form. This is surely one of the most extraordinary triumphs of antisepsis.

I must not omit in this sketch the important step in advance that was declared in the papers by Professor Andrews and Dr. Watson, delivered before this Association last year, on the treatment of carious wounds by the use of a solution of hydrochloric acid (1 to 20). *A priori*, every one felt that such a strength of acid must be so irritating as not to be tolerated. But coming from such authority I at once adopted the method, and I desire to say that I regard it as one of the great advances in surgery, free from danger or even irritation, and replete with power. Moreover, we have at the same time an agent that removes the dead and does not injure the living bone, and is also a valuable antiseptic.

Neither must I fail to speak of one of the stages in the progress of research which is marked by the attempt to obtain sterilized air. As we all know, Lister's spray has occupied the largest place for this purpose, with a reputation much waning, and entirely abandoned as worse than useless in laparotomy. Let any one make the experiment of throwing the spray upon a plate of glass for a few minutes, and he will find, by the employment of a lens, that the rush of the vapor has drawn in and deposited upon the glass every floating particle in the atmosphere, thus concentrating the minute foreign bodies instead of dispers-

ing them. Independent of the poisonous carbolic acid, rapidly absorbed from the large surface of the peritoneum, we would make a special deposit of foreign bodies, which, though minute, could be aught but useful. But long before Lister's time, a plan of enclosing the part to be operated on in an atmosphere of nitrogen was attempted. The difficulty of executing the procedure to a successful termination arrested the experimentation. Many years since I myself entertained the hope that benefit would accrue from the pouring of carbonic acid gas over the wound and into the cavity during a laparotomy, thus excluding the atmospheric air. But without sterilized hands and other necessary apparatus the method was comparatively useless, and with the proper antisepsis became comparatively unnecessary.

We also find Dr. Prince sterilizing the atmosphere of the whole operating room, and a Boston hospital supplied by air from the roof, which, being carried to the basement, is passed over heated plates in winter and thence distributed over the building. Burning sulphur is a common method of preparation with which all are familiar. Perhaps we may yet choose a room whose air shall be purified by its passage through sterilized cotton, or through tubes in imitation of Tyndall's glycerine box.

It is the glory of the time that really great men among us are not so marked by a wide separation from their colleagues, such as prevailed one hundred and fifty years ago. Then there was but one John Hunter, and he remained without peer and with few followers. Meeting one of his contemporaries when he was carrying home some pig's feet from market for the purpose of anatomical inquiry, he was sneered at for busying himself about pig's pettitoes. To-day the pettitoes on such a mission would be enclosed in a nimbus. We have now a Koch who leads, but there is a large following close at his heels. We have Atlee and Spencer Wells, but almost at once their followers appear everywhere and outstrip their teachers.—*Address in Surgery, by Dr. E. M. Moore, at the meeting of the American Medical Association, May* 10; *Medical News.*

The Management of Eczema in Old People.—(Substance of a lecture by Dr. Arthur Van Harlingen, of Philadelphia) :—

McCall Anderson has well said that there are few persons who pass through life without having at one time or another suffered from eczema. What the form may be depends very much upon the period at which it occurs. In the infant the acute erythematous, vesicular and pustular varieties are those met with, of which the well-known tooth-rash is a typical example. When we come to adult age we find the vesicular form of eczema in some cases, but rarely the pustular, and we here meet with papular eczema much more frequently. Toward middle age neurotic gouty eczemas, the forms known as eczema rubrum and eczema fissum, with ulcers on the lower limbs and chronic palmar and plantar lesions, are those most apt to be encountered. When we come to old age, by which I mean, generally speaking, the period between sixty years and the end of life, we find eczema assuming a character, and invading localities, which are sufficiently characteristic to allow of separate consideration.

In the remarks I am about to make upon eczema in old people, I intend to to confine myself strictly to my own experience, nor do I think that we can find much to enlighten us on this subject in the text-books or the monographs upon this subject as it is touched upon incidentally.

In looking over my private case books I find that I have records of between thirty and forty cases of eczema occurring in persons from sixty to ninety-four years of age. Of these all but two were either eczema erythematosum or eczema rubrum, or both combined. These varieties of eczema then may be regarded as essentially characteristic of old age. They are in reality but two stages in the same process, and very often run into one another. Any portion or all portions of the body may be attacked, although the eruption is commonly confined to some particular part, as the face, the scrotum, or the upper or lower limbs. We not unfrequently encounter eczema erythematosum of the face in old people. Here we have a portion or more frequently the whole face, neck, and sometimes chest, covered as if with a mask by a dusky, red, thickened, infiltrated, scaly skin, weeping and cracking in

its folds, and giving rise to a pitiable amount of suffering in the form of burning, or itching, or both. Next to the face, in fact among my cases as frequently as the face, are the scrotum and adjacent parts the seat of the disease. Here the disease almost always runs on to eczema rubrum, and we have the scrotum and penis swollen, œdematous, with the skin more or less thickened and infiltrated, dusky red, shining glassy, or varnished, and usually weeping abundantly, with numerous cracks and fissures. The adjacent parts of the thighs are likewise commonly involved, and the disease may run up into the groins and over the abdomen, the appearance here presented being that of erythematous eczema, with a dry, hard, scaly surface, save in the fold of the groin, which is apt to be marked by a deep, red, weeping crack or fissure. The legs are a not unfrequent seat of eczema in old people, the disease usually beginning as erythematous eczema and quickly changing to eczema rubrum, with often a very profuse discharge and not unfrequently ulcers. Varicose veins are commonly, though not always, present.

As regards the etiology of eczema in old people, it must be remembered, in the first place, that eczema is a disease of debility. In most cases of eczema that are at all severe, debility, a falling off from the natural vigor of the body, is observed. And the debility of old age is of that nature which particularly predisposes to affections of the skin, whether inflammatory or structural. The changes which the skin undergoes in old age, the atrophy of its upper layers and the partial suppression of its normal secretions, modify the character of many diseases, and eczema in particular. This is apt to take on a sluggish and indolent course and often proves utterly rebellious to all treatment.

Malassimilation is another cause of eczema in old persons. This is manifested by dyspeptic and gouty symptoms, obstinate constipation and loaded urine. Among the younger portion of my old patients, those not much past sixty, I find many self-indulgent persons, accustomed to the pleasures of the table and loath to give up such dishes as they have enjoyed in early life, but are not now able to digest. In these cases the eczema is apt to be very stubborn, as it is difficult

for the patient to go upon a restricted regimen. Repeated relapses are found to occur from indiscretions in diet.

In a certain number of eczematous old persons you will find cardiac valvular disease. The existence of this is, I think, at times an efficient cause in the production of eczema, particularly of the lower extremities, and it certainly affects the prognosis unfavorably.

In eczema of the lower extremeties, venous stasis, in the form of and accompanying varicose veins, is a very common cause of eczema in old persons, and this variety of eczema is closely allied to that described above, in the fact that it is apt to be of unfavorable augury. Tilbury Fox first called attention to the circumstances which I have several times found occasion to verify, that eczema of the lower extremeties in old persons is frequently the first sign of a general "break up" of the system.

Regard being had to these factors in the etiology of eczema in the aged, we proceed to the management of our cases by first instituting a careful examination into the patient's constitution, habits and surroundings. Diet, clothing, atmosphere, occupation, mental worry or physical exhaustion, every internal or external cause of impaired health should be examined into, and whatever is faulty should be corrected. I need hardly say that the condition of the digestive, circulatory and respiratory apparatus should be carefully examined into, the urine in particular being always examined, and I think that few cases will be found where there is not some screw loose, some defective working of the mechanism.

After placing the patient under the best hygienic conditions attainable, the diet should be regulated with regard to the enfeebled digestion of old age, the loss of teeth, the want of exercise, etc. Among the younger of our old patients, errors and indiscretions in diet, usually from self-indulgence and the morbid cravings of a depraved digestion, are often encountered. Among the very old what is often needed is advice, not unlike that which we have to give to nurses and young mothers. As the patient approaches the condition of second childhood, the diet of infancy in some respects at least seems that which is most likely to be assimilated. Sometimes we meet with sad cases where the old man or woman is obliged

to toil on far past the period when nature demands repose for the wornout frame. In other cases the worry of pecuniary embarrassment or family differences acts like a weight cast on shoulders too weak to bear the load. Unquestionably these unfavorable outward circumstances favor the continuance of eczema in the aged, even if they are not at times its immediate cause. Removal to a hospital or a home away from the unfavorable influences is often followed by immediate improvement in the eczema.

Indigestion, when it exists, is to be combatted by means appropriate to the individual case. I repeat what I said before, that in the younger of our patients regimen is required, and in addition the medicines appropriate to rectify what is amiss, while in the older patients a diet suitable to the enfeebled digestion of old age, easily or partly digested foods, pepsin, etc., are called for.

Constipation is extremely common in the eczema of old people, especially in eczema of the genitals. To remedy this we must rely more upon drugs than diet. In some cases, particularly the younger ones, purgative mineral waters, especially the Hunyadi Jaños, in doses of a wineglassful daily before breakfast, diluted with eight or ten ounces of hot water, may be employed. In older cases the "Lady Webster dinner pill" ("Pil. aloes et mastich") forms the best aperient.

Tonics are at times demanded. Strychine and quinine are useful. Arsenic should be entirely eschewed. Iron sometimes appears to do much good, especially in the form of the tincture of the chloride or in combination with a mineral acid, as in the well-known mistura ferri acida. When diuretics seem to be required, the well-known Basham's mixture may be employed with advantage, to which acetate of potassium may sometimes be added.

Alcoholic stimulants are occasionally required in the treatment of eczema in the aged, but must be employed with great caution, and at times certainly do harm. When there is a tendency to heart failure, alcohol must certainly be employed. Digitalis, however, will usually accomplish more in these cases when anything can be done.

The local treatment of eczema in the old is, of course, of great importance. Soothing remedies, as baths of starch and

bicarbonate of sodium; lotions, as lead-water, black wash, may be employed with advantage. The fluid extract of grindeila robusta may be used when the eruption is inflammatory and acute. It should be employed in a diluted form, half an ounce to an ounce being mixed with a pint of water. In applying this wash, cloths soaked with it should be applied to the affected part and allowed to dry in contact with the skin, being then changed for a fresh wet application. On no account should evaporation be hindered, since this would convert the evaporating dressing into a poultice, thus forming maceration and discharge, which is chiefly to be avoided.

In many cases bland astringements or soothing powders may be employed to advantage. Rye flour sometimes succeeds when other applications irritate. The simple dry starch flour, lycopodium, kaolin or subnitrate of bismuth may be mentioned as likely to agree in acute cases. None of these, as a general thing, should be used when there is much discharge. The flour and starch powders in particular are apt to cake and form a crust, under which fermentation with the formation of acid discharge is apt to occur very speedily, adding much to the patient's discomfort, and often aggravating the disease.

The following powder is one which I often use as an antipruritic with considerable benefit:

Pulv. camphoræ.....3j
Pulv. zinci oxidi .....
Pulv. amyli .....āā ℥ss M

It should be thickly powdered on, or where practicable, strewn thickly on lint and bound to the parts.

Ointments are most generally useful in eczema of old persons, both soothing ointments and stimulating and antipruritic ointments. Among the soothing ointments McCall Anderson's bismuth ointment stands first. It is composed as follows:

Pulv. bismuthi oxidi..... 3j
Acidi oleici .....℥j
Ceræ albæ.....℥iij
Vaselini .....℥j–3j
Olei rosæ.....♏iij M

Hebra's unguentum diachyli is also useful when well made. Dilute Oxide of zinc ointment, ointment of the subnitrate of bismuth, a drachm to the ounce, and of tannic acid in the same same strength prove useful at times.

When somewhat more stimulating ointments are called for, carbolic acid in the strength of ten to thirth grains to the ounce will be found both stimulant and anti-pruritic. Pruritus is at times a most distressing symptom in the eczema of old persons, and tar or carbolic acid will usually be found the most efficient remedy. An ointment of tar, one drachm to the ounce, may be used alone or in connection with a mercurial, as this:

Picis liquidæ.....3j
Ung. hydrarg. nitrat. ....3ij to 3iv
Adipis..... .....ad 3j M

Sometimes when the eruption tends to palpuation, or when there is much thickening, we may have to use stronger applications, as Wilkinson's ointment:

Olei cadini..... .....
Flor. sulphuris ....āā 3iij
Saponis viridis.....
Adipis..... ....āā 3vj
Pulv. cretæ..... .....gr. xxvi
M.

With one of these local applications, or all in succession if required, you will usually be able to give relief to your elderly eczemative patient and occasionally to cure him.—*Philadelphia Medical Times.*

The Alcohol Habit.—One prominent characteristic of nerve tissue is its capacity for retaining impressions made upon it by external influences. "All nervous tissue," says Dr. Wood, "has the faculty of being permanently impressed by temporarily acting stimuli, the thing remembered being, in fact, the functional excitement."

The same idea is expressed by Dr. Carpenter, that our nervous system grows to the modes in which it has been exercised; and he further remarks that it is "the universally-admitted fact that any sequence of mental action which has

been frequently repeated tends to perpetuate itself, so that we are automatically prompted to think, feel or do what we have been accustomed to think, feel or do under like circumstances, without any consciously-formed purpose or anticipation of results. For there is no reason to regard the cerebrum as an exception to the general principle that while each part of the organism tends to form itself in accordance with the mode in which it is habitually exercised, this tendency will be especially strong in the nervous apparatus in virtue of that incessant regeneration which is the very condition of its functional activity. It scarcely indeed admits of doubt that every state of ideational consciousness, which is either very strong or is habitually repeated, leaves an organic impression on the cerebrum, in virtue of which the same state may be reproduced at any future time, in response to a suggestion fitted to excite it."

When alcohol is taken into the human body, certain characteristic impressions are made upon the nervous systems, these are transient in duration, and unless the dose is repeated, the effects soon pass away. If, however, the use of the drug be continued for a considerable period of time, certain changes occur in the organism which become the organic basis of habit and of various mental and physical disorders.

Continued indulgence in alcohol, no matter under what circumstances its use is first commenced, causes physical changes in the circulation and nutrition of the brain, and establishes a morbid condition, which is in itself a constantly recurring plea for a repetition of the stimulating effects of the drug.

The habitual use of intoxicants is very likely, sooner or later, to become a fixed and uncontrollable desire, as the natural result of frequently repeated impressions upon the central nervous system. That which was at first but a mere habit, may, in this way, pass beyond the control of the individual and become a confirmed neurosis. When this occurs, we have an entirely different condition of affairs from that present in the occasional drinker, who chooses to indulge now and then for social or sensual gratificatien only. A distinction must be made between the self-controlling vice of drunkenness, or acute alcoholism, and the irresistible impulse

of disease. The danger, of course, is that the moderate drinker will occasionally indulge to excess, and later on become the confirmed inebriate, but when the desire for alcohol has passed beyond the power of self-control, a positive condition of disease is present, perhaps not always characterized by changes discoverable at the autopsy, any more than in many cases of insanity, but an abnormal condition of the nervous centres exists, which demands alcoholic stimulation. In many of these cases the habitual use of alcohol is the cause of the diseased condition; the deterioration of nerve element produced by the drug is the source of the continued desire for alcohol. The morbid circle is thus completed. "A vicious habit," says the Mew York *Medical Record*, "by repetition establishes in time definite changes in nutrition, and perhaps structure. We may call this change, disease, or a vicious habit with an unknown somatic basis as we choose. It is a definite thing, at all events, and one to be treated by other than mental therapeutics."

In the great majority of instances, an individual's first indulgence in alcohol is voluntary, under the control of the will, and is the result of his surroundings or associations. The custom of social drinking adds enormously to the liability of the establishment of the alcohol habit, while the lower classes of our larger cities and towns are, from the very nature of their education and surroundings, predisposed to the excessive use of alcohol. Ignorance, poverty and vice, unfortunate domestic relations, destitution and sorrow, have been for ages most important factors in the causation of chronic alcoholism, while the usages of social life are often convenient starting points for the accomplishment of the same result.

One of the effects of our present methods of living is an increased prevalence of the neurotic diathesis. "Our brains," says Sir Crichton Brown, "are finer in structure, more subtile in mechanism, and also more unstable than were those of our ancestors." With increased complexity of the nervous system there is augmented susceptibility to the action of stimulants and narcotics.

The fierce struggle for wealth, position, or the necessities of daily life, with their resultant tax upon a sensitive nervous system, not unfrequently produces a condition of nerve ex-

haustion, in which there is great physical as well as mental weakness and inability to easily perform the ordinary duties of life. In this very common condition of neurasthenia, alcohol is often used for its stimulating effects in goading on the flagging powers of life, with the final result not only of increasing the sufferings of the individaal, but of adding thereto by the formation of the alcohol habit.

There are many persons, and their number is on the increase, who possess only sufficient nerve power to enable them to perform the most ordinary duties of life with safety. They live constantly on the border line of nervous and mental disaster. As long as they attempt only those labors of life which they are well able to perform, they are comparatively safe, but let them be snbjected to severe mental strain or attempt, even temporarily, to carry a heavier burden by the aid of stimulants or narcotics, and the chances are very great that they will become the victims of insanity or inebriety.

The alcohol habit is not infrequently involuntary in character and dependent upon the morbid craving of a defective nervous system. In this class may properly be placed those occasional outbursts of perverted nerve force, which are characterized by periodical excessive indulgence in alcohol known as attacks of dipsomania.

The constitutional tendency to the excessive use of alcohol is usually transmitted from a previous generation. The children of intemperate, insane or neurotic parents, inherit an impaired nervous system, which renders them peculiarly liable to mental and nervous diseases from the slightest exciting causes, while there is often present a strong tendency to the excessive use of stimulants and narcotics. That which was a mere habit in the parent may in the child become an uncontrollable desire. "The nerve enfeeblement," says Anstie, "produced in an ancestor by great excess in drink, is reproduced in his various descendants, with the effect of producing insanity in the one, epilepsy in another, neuralgia in a third, alcoholic excess in a fourth, and so on."

Occasionally the excessive use of alcohol is the result of business or other reverses experienced by an individual possessing an unstable mental structure. The nerve strain of his misfortune may be too great for his powers of resistance,

and the habitual use of intoxicants be developed, partly as a consequence of inherited mental weakness. The craving for alcohol often first manifests itself in a neurotic constitution, after some sudden misfortune or mental strain; later on may occur an outbreak of actual insanity. In this event the successive links in the chain of causes are, an inherited unstable nervous system, inability to successfully cope with the reverses of life, development of a morbid craving for alcoholic stimulation, which leads to further deterioration of the nerve centres, and the occurrence of insanity. Alcohol, however, in these cases, is only a single factor in the production of the final result. It may possibly be only another symptom of slowly developing mental disease.

Alcohol is often prsscribed by physicians in convalescence from acute disease and also in certain morbid conditions attended with suffering: its administration for this purpose, however, is not free from the danger of subsequent habitual use. As a medicine, this drug should be classed among the poisons, and should be prescribed by physicians with extreme care, and with due regard to the individual's hereditary tendencies and previous habits of life. The advice of Dr. B. W. Richardson regarding the use of alcohol in general medical practice is as sensible as it is scientific. "Prescribe it as a medicine, do not permit its use as a beverage. Prescribe it as alcohol from the dispensary; learn the exact quantity that is required to produce the desired effect, and then you will discover, and in no other way, whether the good effect attributed to the grog is due to the alcohol it contains or to some other agency." This method of using alcohol in medical practice, in lieu of brandy, wine, whiskey and other liquors containing alcohol, has received the endorsement of many prominent physicians, and possesses the advantage of an exact dosage while it lessens the liability of subsequent unauthorized use of the drug. I am quite confident that there would be fewer cases of alcoholism if physicians would adopt this method, and also exercise the same care in the use of alcohol that they do in the administration of other powerful remedies.

The influence which alcohol exerts upon the mental powers is usually quite marked, whether the drug be taken contin-

uously or in a single full dose. The brain requires the most healthful conditions for the proper performance of its functions. It cannot retain its normal activity, when frequently acted upon by a deleterious drug, consequently there is generally more or less mental disturbance in all cases of alcholism as the result of impaired or perverted activity of one or more of the cerebral centres.

In the early stage of the disorder the disturbance may be light, and, perhaps, transient in duration, but in the chronic alcoholic, when structural changes have occurred, the impairment of the mind is quite marked, and may include all degrees of mental activity, with occasional outbursts of maniacal excitement or depression to complete dementia.

The question of responsibility for acts committed while the individual is under the influence of alcohol is an important one, and there are many legal, as well as moral, difficulties in the way of its proper solution; still it is to be remembered that the excessive use of alcohol is often only a symptom of an inherited defective nervous system, the morbid actions of which are not always within the control of the individual. It is also true that acts committed while the brain is being acted upon by alcohol cannot be those of a normal mind.

Continued indulgence in alcohol lowers the vitality of the nerve centres by the degenerative changes which it produces. The individual is consequently less able to successfully endure those vicissitudes of life which, under ordinary circumstances, are not injurious to a well-balanced mind, while any unusual exposure, mental strain or shock, is extremely liable in these cases of alcoholic predisposition to produce an outbreak of actual insanity. Anything which interferes with the healthy nutrition of the brain is a predisposing cause of insanity, and it is a fact beyond question that alcohol in excess produces changes in the brain circulation and nutrition, and that it is one of the most common causes of mental disease, producing its effects, not only by degredation of nerve element, which may be followed later by mental disturbance from a very slight exciting cause, but it is also the direct excitant of a taxic form of mental derangement known as alcoholic insanity.

Concerning the relation which alcohol bears to insanity,

Dr. T. H. Kellogg remarks: "That it is active, first, in exciting attacks to which there is already an inherited or acquired tendency; secondly, in the development, *de novo*, of characteristic types of mental derangement, and directly in the transmission of weak and irritable nervous systems that predispose to mental disorder."

In considering the best methods of dealing with the victims of the alcohol habit, a distinction must be made between those cases of alcoholism which are the direct result of voluntary indulgence for sensual or social gratification only, and those in whom the irresistible impulse of disease is present, as it often is, from the very beginning of their course. The first class often closely resembles the second by reason of the morbid craving for alcohol which has been acquired by repeated indulgence, but its members are usually more amenable to treatment by moral means, at least in the early stage of the disorder, than are those in whom the excessive use of alcohol is more or less involuntary, the outcome of an impaired or defective nervous system.

The frequent result of the habitual use of intoxicants is a gradual loss of self-control and the establishment of that morbid condition of the higher nerve centers known as inebriety. When this occurs an entirely different method of treatment from that requisite to overcome a merely vicious habit will be necessary. We have now to deal with a disease needing the hearty co-operation and assistance of the patient, as well as proper medical care for its relief.

The popular idea that the chronic inebriate is the victim of a vice or crime which is within his unaided powers of control is as irrational as it is unscientific, for it is based upon a total misconception of the subject.

Inebriety, whether it be due to hereditary influences or induced by the habitual use of alcohol, is not a vice or crime to be punished with fines and imprisonment, but a disease requiring intelligent medical care and treatment. When this fact is fully recognized by the medical and legal professions, as well as by the public at large, a most important step in the rational treatment of the inebriate will have been taken. As soon as the doctrine of disease is accepted, inebriety passes from the domain of morality, which it has held so long, and

becomes a proper subject for the consideration of the medical profession.

The inebriate will then be regarded as a sick man in need of special care. As a a rule this can best be obtained in institutions properly equipped for this purpose, and in charge of physicians who have made special study of this subject. Such institutions, whether public or private, should be located as far as possible from every source of temptation, and should have all the legal powers of detention and control possessed by our best asylums for the insane; furthermore, our laws should be modified so as to compel the commitment of chronic inebriates to these special asylums rather than to the county jails or the institutions for the insane.

In this way the habitual or periodic alcoholic may, at the discretion of the court, be prevented from further injuring himself, his family, or society, while at the same time he will be placed under the best possible conditions for recovery, or, if found to be incurable, will be provided with a permanent asylum home, which will, at least, prevent the transmission of the insane or inebriate diathesis to a succeeding generation.

When the inebriate has been properly treated in these special institutions the results have been more satisfactory than by any other method of treatment.

Of five hundred cases of inebriety discharged from the Inebriate's Home at Fort Hamilton, N.Y., Dr. Mason reports that two hundred and eighty-three had been heard from; of these 148 were doing well, 10 were improved, 86 were unimproved, 29 had died, 8 had been transferred to lunatic asylum, hospital or alms-house, and 2 were idiotic.

This plan has also received the endorsement of the medical profession. In 1876 the American Medical Association resolved "that special treatment in institutions adapted to that purpose is required for the cure of the inebriate, and it is the imperative duty of each commonwealth to establish and maintain public institutions for the treatment and cure of inebriety." One year previous to this the Association of Medical Superintendents of American Institutions for the Insane took the same ground, and further, "Resolved, that as, in the opinion of this association, any system of management of institutions for inebriates under which the duration of the

residence of their inmates and the character of the treatment to which they are subjected is voluntary on their part, must, in most cases, prove entirely futile, if not worse than useless. There should be in every State and Province such positive constitutional provision and statutory enactments, as will in every case of assumed inebriety secure a careful inquisition into the question of drunkenness and fitness for the restraint and treatment of an institution for inebriates, and such a manner and length of treatment as will render total abstinence from alcoholic or other hurtful stimulants during such treatment absolutely certain, and present the best prospects of cure or reform of which each case is susceptible.

"Further, that the treatment in institutions for the insane, of dipsomaniacs, or persons whose only obvious mental disorder is the excessive use of alcohol or other stimulants, and the immediate effect of such success is exceedingly prejudicial to the welfare of those inmates for whose benefit such institutions are established and maintained, and should be discontinued just as soon as other separate provision can be made for the inebriates." In conclusion, I would remark:

(1.) That the continued use of alcohol produces structural changes in the brain and other portions of the body. These changes form the organic basis of habit and of various mental and physical disorders, and constitute a morbid condition, which is in itself a constantly recurring plea for the continued use of the drug.

(2.) The habitual use of alcohol may be the result of indulgence for sensual or social gratification only, or it may be the outcome of an inherited or acquired impairment of the nervous system. It is important to distinguish between these two classes when possible.

(3.) The alcoholic habit leads to inebriety, a disease of the higher nerve centers, which requires proper medical treatment in institutions especially equipped for this purpose.

(4.) These institutions should have full legal powers of detention and control, but they should have no connection with public asylums for the insane.

(5.) Our laws should provide for the judicial commitment of the habitual or periodic inebriate to these special institutions, rather than to the county jails or insane asylums.—*Dr. Baker in the Alienist and Neurologist.*

The Technique of Intestinal Injections.—Quincke is quoted by the Deutsche medicinishe Wochenschrift of April 5, 1888, in his description of methods of intestinal injections which he has recently found useful. In place of the hard tip which is ordinarily used on enema syringes he substitutes a soft, flexible nozzle, about eight to eleven inches long, and of convenient calibre. The tip is slightly harder than the rest and has two lateral openings; the external end is dilated somewhat, the whole resembling an œsophageal tube. It must be perfectly smooth and of the best rubber. The insertion of such a tube is far less painful than the use of the ordinary tip. It may be ordinarily inserted two or three inches, but when necessary may be passed four or six inches without injury. This tube may be very easily cleansed, soap and water and carbolic acid sufficing to disinfect it thoroughly. An injection of oil may be readily given by filling the dilated external extremity with oil, and then attaching the irrigator tube; the water from the irrigator will force the oil before it into the bowl. In obstinate tympanites the tube may be allowed to lie in the bowel for an hour or more, securing the free exit of gas. Quincke secures the retention of a considerable quantity of water high in the bowel by a very ingenious device, which consists in attaching to a convenient portion of the tube a collapsed rubber balloon two inches in diameter when inflated. This balloon may be filled with water by its own small separate tube. When introduced to the desired height the nozzle aperature is free from it. The balloon is then filled with water, occluding the bowel; the desired injection is then introduced beyond it, and as much fluid as desired is thrown in at the desired level.—*Med. News.*

The Contra-Indications and Dangers of Antipyrine.—Antipyrine should not be administered in anti-hyperpyretic doses to patients suffering from renal disease, it having been demonstrated that its effect is to suspend the functional activity of the kidneys. For anodyne purposes antipyrine should be avoided in cases of real angina, because, although it may allay the pain, it acts injuriously on the muscular structure of the heart. In pseudo-angina there is no

reason to prefer it to morphine. The danger to anginal patients from the administration of antipyrine consists in that (1) there is a constant risk of acute dilatation of the heart, which may result in depletion of the vessels supplying the nervous system and so cause death from collapse. (2) All anginal patients have more or less diseased arteries, and the kidney function is consequently impaired. Dr. Elvy considers antipyrine a drug which has obtained notoriety by false pretences. In one case it modifies the temperature without diminishing the fever; in another it alleviates the pain, but increases the risk in such wise that "if patients feels better while they live, they nevertheless incur serious risks."—*Elvy, in London Med. Record.*

Tracheotomy in Morphine Poisoning.—About four months ago I read in the *Medical Review* a short account of the resuscitation of a physician of Vienna from opium narcosis by means of tracheotomy and forced respiration with a bellows. It seemed to me to be a rational and feasible procedure, and I determined to try it, should the opportunity present itself.

On the afternoon of March 11, 1888, a young man was brought to the City hospital in an unconscious condition. It was reported that about an hour previously, in ending up a debauch, he had taken an ounce of laudanum with suicidal intent. His condition then was bad; cyanosis was marked, the pulse was proportionally weak, and respiration, already shallow, was rendered difficult by the accumulating mucus in the trachea. The pupils were minutely contracted and immobile; extremities cold. The treatment usually carried out in the hospital in such cases was adopted; one-hundredth of a grain of atropia, and several syringefuls of whiskey were administered subcutaneously, the syphon-tube was passed into the stomach, and that organ was repeatedly washed out, at first with water, afterward with strong coffee. The flagging respiration was stimulated by douches of cold and hot water alternately dashed over his chest, and to the same end the Faradic current for a time seemed to be of benefit. But notwithstanding our efforts, narcosis became more profound; cyanosis was intensified to a degree which I have seldom seen,

and efforts at respiration on his part ceased entirely, so that artificial respiration was substituted, effectually at first, with much less success afterwards. It became evident that unless something radical were done, and that, too, immediately, the patient could not last. I bethought me of the bellows method.

The patient was hastily removed to the amphitheatre, where, with the kind permission of our superintendent, Dr. H. C. Dalton, I performed tracheotomy as rapidly as possible, during which only a gasp was taken now and then, probably two or three to the minute. On separating the severed cricoid, a deep inspiration was followed, as is usually the case at this stage of a tracheotomy, by a considerable interval of quietude. We were about to insert the tube connected with the bellows, when a second gasp produced such a shock on the bronchi by the direct impact of cold air on their mucous surface, that violent coughing was set up, expelling with each spasmodic expiration mucus which had collected in the trachea to a considerable amount. By this means the tube was soon cleared of its contents. Coincident with the violent coughing, of course, deep inspirations were taken, just the object aimed at, though attained in an unexpected manner, without the use of the bellows; change for the better began almost immediately. The dark purple countenance gradually paled under the more vigorous action of the heart—however paradoxical that may appear at first thought—and efforts to speak evidenced returning consciousness. A piece of moist gauze placed over the tube acted as a filter to the inspired air. Injections of stimulants—whiskey and ether—were continued at intervals, and another hundredth of a grain of atropia was given, after which the patient was removed to his bed and subjected to frequent and vigorous stirring up when respiration was inclined to flag—and it was so inclined for the next several hours. Sleep was not prevented, and he was soon wrapped in its soothing embrace. On the following morning the tube was withdrawn and the incised membrane and cartilage were sutured, the rest of the wound being allowed to granulate.

I should like to be able to close the record of this case *a la mode* with the statement that recovery followed without a bad

symptom, but I am prevented from doing that by the fact that four days after his entrance into the hospital the patient became subject to delirium tremens, from which he died thirty-six hours later. The presence of pneumonia or other complications of that sort was definitely excluded by post-mortem examination.

It may be suggested that possibly the patient might have recovered even after several stoppages of natural respiration, such as the one which precipitated the operation, ordinary methods of artificial respiration being employed. I, too, believe that possible, but not probable—a fact but too often demonstrated in cases of that kind.

I have seen not a few patients with vastly less cyanosis, with at times stronger pulse and more vigorous respiration, succumb under the continued use of that treatment.

And the procedure could add no complication to the already critical situation; on the contrary, it could only be of benefit by allowing a free vent for the cause of that ominous sign, the tracheal râle, and by shortening and simplifying the channel of communication between the lungs, and that all powerful life-giver, "fresh air." As hinted at above, the direct influx of unwarmed air would seem to be no mean factor in conducing to the desired end. Should respiration not be re-established, or fail after its repeated re-establishment, it would be easy enough to insert into the tracheal tube a tube connected with a bellows, by which the lungs could be forced into activity as long as desirable.

In searching for literature on the subject, the *Index Medicus* directed me to only one article referring to it, that of Dr. G. E. Fell, in the *Buffalo Medical and Surgical Journal*, for November, 1887. In it the author reports the successful treatment by means of forced respiration with bellows, etc., of a patient who had been poisoned by morphine for a longer time than the one to whom I have called your attention. The narcotism in the former case seems to have pursued a course not so rapid as that of the latter. The apparatus used was the one usually employed in the doctor's physiological laboratory in the performance of artificial respiration on dogs.

The operation was done on July 24, 1887, prior to the one performed at Vienna, and was, therefore, so far as known, the

first on record. Since then Dr. Fell has used the treatment with success in two cases, both of which required the prolonged exercise of forced respiration.

In view of the results of the hospital case, I believe that in morphine poisoning, where other means fail, even though it be impossible, on account of the lack of apparatus, to supplement it with bellows respiration, tracheotomy is a wise and justifiable measure.—*Dr. Bransford Lewis in the American Medical Association Journal.*

Metabolism in Typhoid Fever in Children.—The urine gives perhaps the best indications of the tissue changes proceeding in typhoid fever, as in any other disease. Jacubowitsch (*Archiv für Kinderheil*, Bd. ix, Heft i) has made an important contribution to our knowledge of the metabolic changes in typhoid fever in children. He insists on the necessity for knowing the actual quantity of nitrogenous material daily ingested, and also the quantity of urine and other excreta, together with the daily loss of carbonic acid and water. There is a considerable diminution in the quantity of urine passed during the pyrexial period, but no definite correspondence was noted between the elevation of temperature and the quantity of the urine. At the end of the first week there was a loss which varied from 50 to 200 cubic centimetres, and even to 500 cubic centimetres in some cases, the quantity voided being one-half of the normal. These diminutions were rather increased during the second week, whereas at the end of the third week the qnantity tended again to rise, and in some of the cases was twice the amount of the second week. During the fourth week the normal was still not reached. As a rule, the color of the urine was deeper red the less the quantity passed; but this did not always obtain, for in some instances the color was nearly natural. The reaction was usually acid—sometimes, however, only slightly. As was to be expected, the density of the urine was inversely proportional to the quantity. Gerhardt states that albuminuria results from variation in blood pressure due to the pyrexia, but Jacubowitsch does not substantiate this, for he detected no albumen in the urine in his cases at any period of the disease. The estimations of the urea discharged during

the disease are very interesting and appear to be ranged in two classes; in one the urea discharge was large during the first week, but then gradually lessened as the disease progressed; in the other class the discharge of urea gradually augmented with the continuance of the fever, and continued to rise until the fever ended. The uric acid discharged was found to correspond with the elevation of temperature, and to be greater during the pyrexia of the first period than during the later stages of the disease. A diminished excretion of chlorides was noted all through the morbid process. The excretion of phosphates and sulphates also was grouped into two classes like the urea, in one the quantity being increased at first, but then lessening by degrees, and *vice versa*. Jacubowitsch believes that the activity of the poison in the blood has more influence in altering the urine than has the fever or the febrile accompaniments.—*Lancet, April* 21, 1888.

Jaborandi in Obstetric Practice.—Having for many years noted the fact that parturition does not progress favorably till diaphoresis occurs, I have for some months past induced this condition in the early stage of labor by giving fluid ext. jaborandi (green—the brown has proved worthless in my hands.) My plan is, when called to a case, to order a warm brick to be applied to the feet, which are always cold, and then to give one-third of a teaspoonful of fl. ext. jaborandi in half a wineglassful of water, and repeat the dose every half hour until perspiration occurs. It is very seldom that more than two doses are required. The first effect of this medicine on the patient is soothing; she becomes more quiet and bears her pains with resignation. Upon being questioned, the patient often states that her pains do not hurt her as they did. On examination after diaphoresis occurs, the os will be found dilating rapidly; the soft parts to be in a favorable condition; and in a short time the labor will be satisfactorily terminated. Should the patient appear weak from the sweating, I wipe her face and neck with a dry towel, and give her a teaspoonful of whiskey or half as much of aromatic spirits of ammonia. Since using the above remedy I have had no occasion to use ether, chloroform or the forceps. I have not seen any mention of the use of jaborandi in obstetric practice; but, having had such favorable results from its employment I recommend it to the consideration of the profession.—*Dr. Hardcastle in Med. and Surg. Reporter.*

CANADA

Medical and Surgical Journal.

MONTREAL, JUNE, 1888.

GALLSTONES *vs.* SOAP.

The London *Lancet* has certainly the reputation of being steady and reliable, if ever journal was, and it is for this reason that we feel so particularly surprised, even grieved, that it should have fallen into believing such an old, old story as that of the "olive oil and the gallstones." In the summary of the advances in therapeutics made in the year 1887 we find, "The treatment of gallstones by the use of a decoction of a well-known fern, asplenium ceredach or doradilla, and also by very large doses of olive oil, is amongst the therapeutical singularities of the year; and there are grounds for believing that each of these remedies may be found of value." We were under the impression that this "oil and gallstone" affair had now become a matter of ancient history.

In the *Canada Lancet*, about five years ago, the whole matter was fully discussed, and as we thought at the time, settled. The suffering patient, the oil, the down-pour of gallstones, the delight of the doctor, the rush to print, the discovery that swans were geese and gallstones soap are all described in that veracious chronicle of the period.

The question seems to be finally settled by D. W. Prentiss, in the *Philadelphia Medical News*, in an article entitled "Gallstones or Soap?" He describes cases in which relief to symptoms really did follow the administration of oil. The masses passed were subjected to careful chemical analysis at the hands of Professor Wiley, chemist of the Agricultural Department, who furnished, it is believed, the only analysis of these concretions yet published. "On reaching me the whole had melted

to a viscous mass resembling soft soap. On examination it proved to be a true soap, easily soluble in alcohol, yielding fatty acids, insoluble in water on treatment with an acid, ... The chief part of the alkali was soda. This is an interesting case, showing the complete saponification of a large quantity of oil by the pancreatic juice and bile, and the passage of the greater quantity of soap thereby formed, unabsorbed, through the alimentary canal." Soap or no soap, the patients in these cases all appear to have had their symptoms relieved.

IMPROVED CÆSARIAN SECTION.

Dr. Garrigues of New York (*American Journal of Medical Sciences*) again protests against Sänger's name being attached to an operation which is "the beautiful outgrowth of general surgical and special gynæcological development, an evolution due to the combined efforts of many men working independently of each other, in different countries, especially Lister in Scotland, Spencer Wells in England, Guéniot in France, P. Müller in Switzerland, Leopold in Germany, and last, but not least, Lungren in the United States. Even in Germany voices have been raised against Sänger's claims, for at the Munich meeting of the German Gynæcological Society in 1886, Kaltenbach asked what was left of Sänger's method since operators had given up slicing away a section of the muscular tissue and had found silk and wire of equal value. Sänger, who was present, replied that he had recommended the use of numerous sutures, rejected absorbable materials for his sutures, directed that the decidua be not included in the suture, and laid special stress upon an exact sero-serous suture. Garrigues contends that every one of these points had been borrowed from others. Numerous sutures (a combination of deep muscular and superficial peritoneal) had been used by Spencer Wells in uterine fibroids and by Kehrer in Cæsarian section. Catgut had been given up, and Dr. S. S. Lungren of Toledo had avoided the decidua in 1875, and published it in 1880, and had folded in the peritoneum to make the sero-serous suture before the new literature on the Cæsarian section was begun.

TO OUR READERS.

On and after the first of July next this JOURNAL will be issued under the name and title of THE MONTREAL MEDICAL JOURNAL. Another and more important contemplated change is an increase in size from 64 to 80 pages. The editors have for some time seen the necessity for this change to make room for the ever-increasing amount of original matter with which they are favored. They are pleased to announce, also, that through the liberality of the publishers the price of the JOURNAL will be reduced from three to two dollars per annum. In many quarters it is a common saying among practitioners that there are too many medical journals. There is no doubt a vast amount of quickly perishable matter published. On the other hand, there is a vastly greater amount of important matter left unpublished. Let any practitioner count up the number of his colleagues who seriously and regularly contribute their experience to the sum total of knowledge, and after all he will find the percentage a very low one. What an immense amount of living knowledge is lost to the world through the apathy of many of us? It is the bounden duty of each and every one to contribute his mite. Every man has a mite to contribute.

An important feature of the MONTREAL MEDICAL JOURNAL will be the issuing of regular quarterly reports on the different branches of practical medicine. These reports will be made out by men qualified by special knowledge in their different departments. In the past our regular reports on surgery and gynæcology have been highly appreciated, and we can assure our readers that no pains will be spared to continue this efficiency. Through these reports the reader will with little labor be enabled to thoroughly keep abreast of the times in all the practical departments of his profession.

PROVINCIAL MEDICAL BOARD.

The semi-annual meeting of the Provincial Medical Board of the Province of Quebec was held in the City of Montreal on Wednesday, the 9th May, 1888, Dr. W. H. Hingston, President, in the chair.

The report of the examiners for admission to the study of medicine was read. Forty-six candidates had passed the necssary examinations and were received by the Board as qualified to enter upon their studies. Thirty-two candidates will be required to pass upon certain subjects at the next examination, and nine were rejected.

Dr. Prosper O. Louzon presented a notarial notiffication, informing the Board that he will apply for a license at the next session of the Legislature.

The President stated that the Committee on the Amendments to the Medical Act had not been called together since the month of September last.

It was moved by Dr. Lachapelle, seconded by Dr. Lemieux, That all candidates for license, who have passed the preliminary examination in any other province than that of Quebec, shall be obliged to sign a solemn declaration that such certificates were obtained in compliance with the requirements of such provinces, and not for the purpose of evading the law of the Province of Quebec.

An amendment was moved by Dr. T. Larue, seconded by Dr. Paré, That the Provincial Medical Board cannot, according to its by-laws, accept the certificate from any other province of the Dominion for the preliminary examination of those who study medicine in the Province of Quebec.

A sub-amendment was moved by Dr. Kennedy, seconded by Dr. Parke, That certificates for matriculation in medicine, registered by the Ontario Council, be accepted for the present as heretofore, and that a committee be named to examine into the nature of the certificates and to report at the next meeting of the Board.

Both the amendments and the main motion were lost on division. Dr. Lachapelle then resigned from the Committee on qualifications and was replaced by Dr. Paré.

At the afternoon session the reports from the assessors of the Universities of Laval, McGill, Victoria and Bishop's Colleges were read and adopted.

A duplicate license was granted to Dr. Alleyn, of New Orleans, formerly of Quebec, the original having been accidentally destroyed by fire.

A man named Thomas Ward, who has been prosecuted as a

quack several times, made applicatiou by letter to be permitted to practice the dressing of wounds and cancers, as he had been in the habit of doing for forty years. Laid on the table.

Dr. Kennedy, for the Committee on Qualifications, reported that the following gentlemen were entitled to the license:

Victoria University—Henri Ducharme, Jos. Beaulne, Victor Bourgaanlt, E. A. Laferrière, Hyacinthe Bastien, L. A. Beaudry, J. C. Gadoury, J. A. Marcotte, J. E. Brault, E. E. Laurent, L. C. Bussière, Jos. Barolet, J. M. Picotte, J. A. Pomminville, C. T. Morel de Ladurantaye, J. T. Moreau, J. A. Paré, L. Leblanc, Jos. Thériault, Chas. F. Clerk.

Bishop's University—V. J. Groulx.

Laval University, Montreal—E. A. René de Coteret, Charles Marcil, Arthur J. Ricard.

McGill University—E. H. P. Blackader, E. L. Quirk, F. G. Finley, W. G. Stewart, J. H. Bell, A. W. Haldimand, C. W. Haentschell, W W. Chalmers, R. Marr Kincaid.

The candidates were sworn and the licenses granted.

Dr. Kennedy then submitted the names of a number of candidates having the degree of M. D., who have passed their preliminary examination in Ontario, Manitoba, or New Brunswick

Moved by Dr. Guay, seconded by Dr. Rousseau, That the question of admission to the st dy of medicine be reconsidered.

The motion, on division, received a majority of votes, bnt the President ruled that a two-third vote was always required for reconsideration.

Moved by Dr. Grandbois, seconded by Dr. Howard, That in future the license shall be refused to those candidates who, belonging to this province, have endeavored to evade the law of the province by passing their preliminary examination in one of the other provinces; and that the candidates now before the Board having such certificates from other provinces be required to sign a solemn declaration that they have obtained such certificates in the regular course and not with any intention of evading the existing law.

Moved in amendment by Dr. Dagenais, seconded by Dr. Ladouceur, That, in future, the Board grant no license to candidates not possessing the certificate of preliminary examina-

tion from this Board, with the exception of the cases provided for by the law.

Amendment lost and main motion carried.

The following graduates signed the above declaration before Dr. Leprohon, J.P., were sworn, and received the license:

Victoria University—Thos. Ennis, Félix Coran. Paul Royal and U. A. Dorais.

Bishop's University—Frederic Taylor, Follin H. Pickel.

McGill University—R. B. Struthers, J. A. Springle, W. D. T. Fergusson, F. D. Robertson, John Geo. McCarthy, F. G. Desmond, James Hewitt and C. P. Dewar.

Queen's College—Jas. N. Anglin.

Dr. Alfred Smith, of the Toronto School of Medicine, also received the license.

It was resolved that the following members be a committee to take the steps necessary for the presentation of the Medical Bill before the Legislature: Drs. Lemieux, Belleau, Lachapelle and Parke.

Moved by Dr. Christie, seconded by Dr. Durocher, That the Bill be withheld for six months. Lost.

Meeting then adjourned.

ONTARIO MEDICAL ASSOCIATION.

The eighth annual meeting of the Ontario Medical Association will be held in Toronto on June the 13th and 14th. The meeting promises to be of more than usual interest.

Dr. Mullin of Hamilton opens the discussion on Medicine, his subject being "Malaria as a Cause of Disease."

Dr. Grasett of Toronto opens the surgical discussion by a paper on "Urethral Discharges."

Dr. Burnham opens a discussion on Ophthalmology by the reading of a paper on "Some Affections of the Eye of Interest to the General Practitioner."

The following papers, among others, have been promised:—

Neurasthenia—Dr. Daniel Clark.
Pessaries—Dr. Temple.
Intestinal Sutures—Dr. Oldright.
Coroner's Inquests—Dr. J. H. Richardson.
Changes brought about by Bacteria in Blood and Tissues—Dr. C. Sheard.

Laparotomy for Intestinal Obstruction—Dr. McFarlane.
Moral Insanity—Dr. Workman.
Glossitis—Dr. Hunt of Clarksburg.
Congenital Goitre—Dr. McKenzie, Wingham.
Treatment of Inguinal Hernia—Dr. Robertson, Brampton.
Rest in Neurasthenia—Dr. Walker of Dundas.
Craniotomy—Dr. Harrison of Selkirk.
Intubation of the Larynx—Dr. Stark of Hamilton.
Treatment of Empyema—Dr. Whiteman of Shakespeare.
Uterine Electrolytic Apparatus—Dr. A. M. Rosebrugh, Toronto.

Dr. Wyeth of New York will read a paper on "Plastic Operations in Urethro-Rectal Fistulæ."

CANADIAN MEDICAL ASSOCIATION.

The twenty-first annual meeting of the Canadian Medical Association will be held in the city of Ottawa, an the 13th and 14th of September next. The following are the officers of the Association :—

President—J. E. Graham, M.D., Toronto.

President Elect—George Ross, M.D., Montreal.

General Secretary—James Bell, M.D., Montreal.

Treasurer—Charles Sheard, M.D., Toronto.

Vice-Presidents—For Ontario, Dr. Eccles, London ; Quebec, Dr. Christie, Lachute ; New Brunswick, Dr. Currie, Fredericton ; Nova Scotia, Dr. Wickwire, Halifax ; Manitoba, Dr. Blanchard ; British Columbia, Dr. True, New Westminster.

Local Secretaries—For Ontario, Dr. J. A. Grant, Jr., Ottawa ; Quebec, Dr. Armstrong, Montreal ; New Brunswick, Dr. Lunam, Campbellton ; Nova Scotia, Dr. Trueman, Sackville ; Manitoba, Dr. Chown, Winnipeg ; British Columbia, Dr. Milne, Victoria.

BRITISH COLUMBIA MEDICAL COUNCIL.

The regular semi-annual meeting of the British Columbia Medical Council was held in Victoria on the 1st, 2nd, 3rd and 4th of May. Present : Dr. Davie (Victoria), Vice-President ; Dr. Milne (Victoria), Registrar ; Dr. Hanington (Victoria), Treasurer ; Dr. McGuigan (Vancouver), Dr. Powell (Victoria), and Dr. DeWolf Smith (New Westminster).

The Treasurer's report showed that the Council had a satis-

factory balance on hand, and it was resolved to devote a portion of this to the prosecution of unregistered practitioners throughout the province.

Two candidates presented themselves for the license, but were referred for six months.

The election of officers for the ensuing year resulted as follows: President, Dr. J. C. Davie; Vice-President, Dr. W. J. McGuigan; Registrar, Dr. G. L. Milne; Treasurer, Dr. E. B. C. Hanington,—the two latter being re-elected.

The Committee on Fees, appointed at the last meeting, brought in a report recommending a scale of fees, which was adopted by the Council and ordered to be printed.

The Council then adjourned. The next meeting will be held in Vancouver, on the first Tuesday in November, 1888.

NOTES AND COMMENTS.

There are certain disputed points in the clinical history of purpura rheumatica (the Peliosis rheumatica, of Schönlein), which are illustrated by the following case:—A. B., at 30, seen with Dr. J. H. Musser. He had been a tolerably healthy man. In March had a severe sore throat, which kept him at home for a couple of weeks. He returned to work, but in ten or twelve days the sore throat again came on, with fever and swelling of the left ankle. I saw him on the fourteenth day of the illness. The symptoms had been fever of moderate grade; arthritis, chiefly of right ankle, but other joints were also sore and stiff; an extensive purpuric and urticarial eruption, beginning on lip and eyelid and extending to limbs, chiefly on extensor surfaces; great swelling and finally sloughing of uvula; profuse sweats, and endo-pericarditis. At the time of my visit the purpura was fading, but the rash was still most extensive on the legs and was both petechial and presented the characters of p. urticans. A considerable portion of the uvula had sloughed away and the fauces had a deep bluish red color. The heart beat was outside the nipple line; there was pericardial friction, and a systolic murmur could be heard at the apex.

The question arose whether we had not a case of malignant

endocarditis, with the extensive cutaneous infarcts so common in this disease; but the large size of the hæmorrhagic spots, their swollen condition, and the fact that some of them began like "hives," pointed to a purpura urticans associated with articular and cardiac disease in a case of rheumatism. The joint affection, profuse sweats and endo-pericarditis indicate the true rheumatic nature of cases of this kind. The sore throat, so marked a feature, existed also in a remarkable case of Peliosis rheumatica which I saw with Dr. Molson in 1880 and which is recorded in Vol. IX. of this journal. The patient had three attacks of tonsillitis within five weeks. Sloughing of the uvula, such as occurred in Dr. Musser's patient, is occassionally met with in acute rheumatism. I recorded an instance in Vol. VII. of the journal, and lastly, the existence of endo-pericarditis is worthy of note, as certain authors have laid stress on the fact that it does not occur in rheumatic purpura.

With the rose-colored rash in typhoid fever, or occurring alone, there are sometimes to be seen bluish spots on the skin of abdomen, back and thighs, ranging in size from two to eight lines in diameter, and often arranged in groups. They were called *taches bleuâtres* by the French and by this name have passed into literature, though the term peliomata has also been applied to them. Murchison gives a good description of them in his work on fevers (for good illustration see his Plate V.), and agrees with Jenner that they are usually seen in light cases. Though not very common, I have usually each session an opportunity to demonstrate them, and my attention has recently been directed to the subject by their occurrence in three cases in succession, all very severe.

In my experience they occur indifferently in severe and mild cases. The spots are not elevated, but in certain light may appear, as Forget notes, depressed. They do not occupy the same layers of the skin as the typhoid rash, but are rather sub-cutaneous, as the pale dermis may be seen above them. Firm pressure causes them to disappear and they fade after death. Murchison and Jenner state that they persist after pressure, but certainly in the cases in which I have tested this point the lividity could usually be removed.

The condition is not peculiar to typhoid, but occurs in relapsing typhus and simple fevers. I have never seen it except in association with the febrile state. I believe it to be a vaso-motor disturbance, inducing local areas of congestion in the sub-cutaneous tissue. Duquet and other French writers have expressed the opinion that they are caused by pediculi pubis, not by the punctures, but by the saliva extruded on to the skin! Certainly, the "blue spots" occur in cases in which no pediculi can be found, and it is curious that they should come out only in conditions of fever.

The recently completed work of Gowers on the *Diseases of the Nervous System* is the most solid contribution to systematic neurology produced by the British school, and as a text book on the subject stands unrivalled in any language. We need not read between the lines to see the untiring industry, the powers of patient observation and the clear, strong judgment which have made this work possible, and have made the author, at a comparatively early age, among the highest living authorities on all matters relating to diseases of the nervous system. No school of medicine in Great Britain has produced such good work in this department as University College: Bastian in the higher psychological relations of mind and brain, Schäfer in cerebral localization, Gowers in his numerous monographs and in this large volume, and Horsley in his brilliant work in the field of brain surgery.

The highly improbable obstetric tale which I told in the January number has been too much for the credulity of many of your contemporaries, and to their criticisms I meekly submit, knowing well that in obstetrics and gynecology I cannot lose a reputation for veracity; but I am glad to see that Mr. Brydges has come to my rescue and that much fuller details of this truly remarkable case have been published in one of the Manitoba papers and have been copied into a recent number of the New York *Medical Journal*. With the doctor who delivered the placenta and the conductor who found the child on the track I now leave the skeptics.

WILLIAM OSLER.

Medical Items.

—We hear that Dr. T. D. Reed has been invited to give a short course of lectures on Physiology and Hygiene to the members of the McGill Normal School, to commence in September.

—Dr. Fritsch, Professor of Gynæcology at Breslau, well known as the editor of the *Centralblatt für Gynäkologie*, has been nominated successor to Prof. Scanzoni of Wurtzburg.

A NEW TREATMENT OF NEURALGIA.—In facial and subcutaneous neuralgias, some surprising results appear to have been obtained in France from the combined action of the constant current and chloroform. Prof. Adamkievics some time since constructed a porous carbon electrode into which he is able to introduce chloroform; under the influence of the current, the chloroform of the electrode, which is connected with the positive pole of the battery, penetrates the tissues, a result which may be made sufficiently apparent by coloring the chloroform with gentian violet, and then passing the current through the ear of a rabbit. It produces a triple action—through the constant current and the burning, and finally anæsthesia. Prof. Adamkievics cites many observations where this method has proved remarkably successful, and confidently recommends it.—*Epitome.*

NEW AND IMPORTANT MEDICAL FACT.—The *Medical Review*, commenting on the scientific and profound researches by Prof. Seegen of Vienna, and his conclusion that the sugar formed by the liver is derived from albumen and fat, characterizes his conclusion as a new and important fact—one not in accord with the previously entertained chemical and physiological ideas. Prof. Seegen's conclusions, briefly summarized, show that the blood passing from the liver contains an infinitely greater quantity of sugar than that entering the organ; that the newly-formed sugar in the liver is wholly independent of saccharine food, as well as of the carbo-hydrates introduced with the food; that even the liver glycogen is unconcerned in the production of sugar in the liver, and that albumen and fat are the materials out of which

the liver forms sugar. The demonstration of this fact was accomplished by bringing together fatty bodies and blood with finely divided liver substance. This being so, the liver is pronounced to be the great laboratory in which food is changed for the performance of work and the production of heat.—*The Epitome.*

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Antimony and Potass. Tart., 1-8 gr.	60	Mercury, Green Iodide, 1-4 gr.	75
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Cocaine Hydrochlor., 1-50 gr.	1 00	Podophyllin, 1-8 gr.	65
Codeine, 1-8 gr.	4 00	Santonine, 1-2 gr.	1 25
Corrosive Sublimate, 1-40 gr.	60	Strychnine, 1-60 gr.	60
Digitalin, 1-100 gr.	75	Tr. Aconite, 1 min	60
Elaterium, 1-8 gr.	3 00	Tr. Belladonna 2 min.	60
Eserine Sulph., 1-100 gr.	1 50	Tr. Gelsemium, 3 min.	60
Ext. Cannab. Indica, 1-8 gr.	75	Tr. Hyoscyamus, 2 min.	60
Ext. Colocynth. Comp., 1-4 gr	75	Tr. Opium, 2 min.	90
Ext. Ignatia, 1-4 gr.	90	Tr. Veratrum Viride, 1 min.	60
Ext. Ipecac Fld., 1-2 min	75	Zinc Phosphide, 1-10 gr.	75
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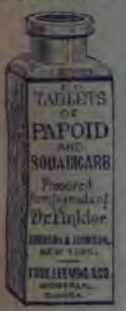

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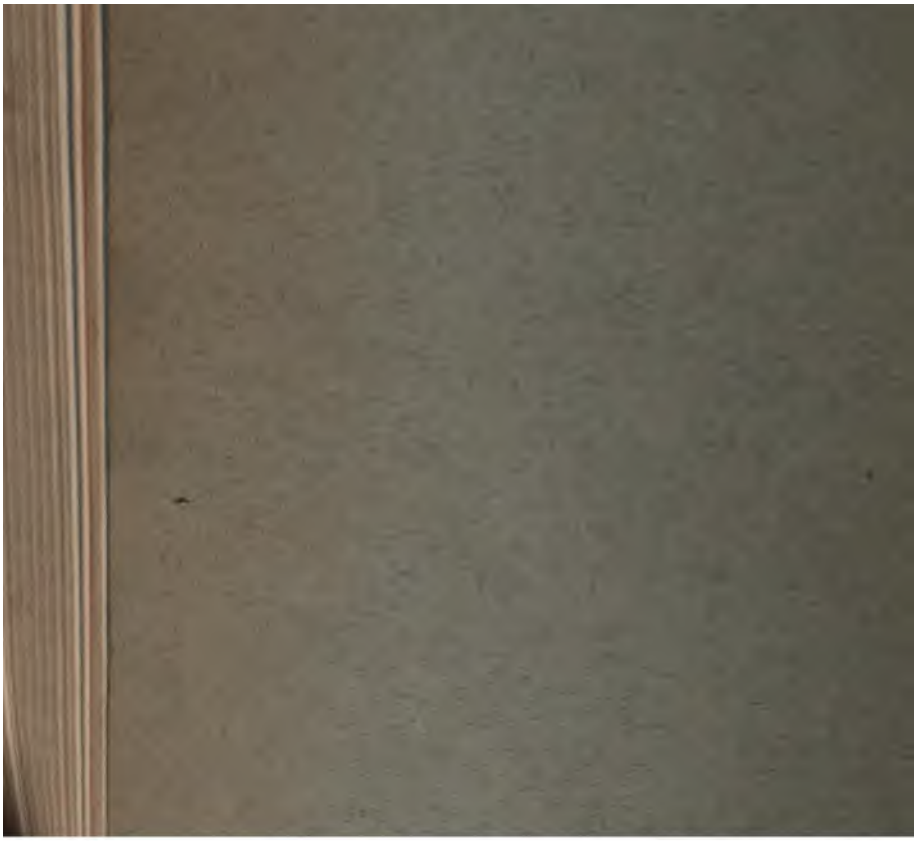

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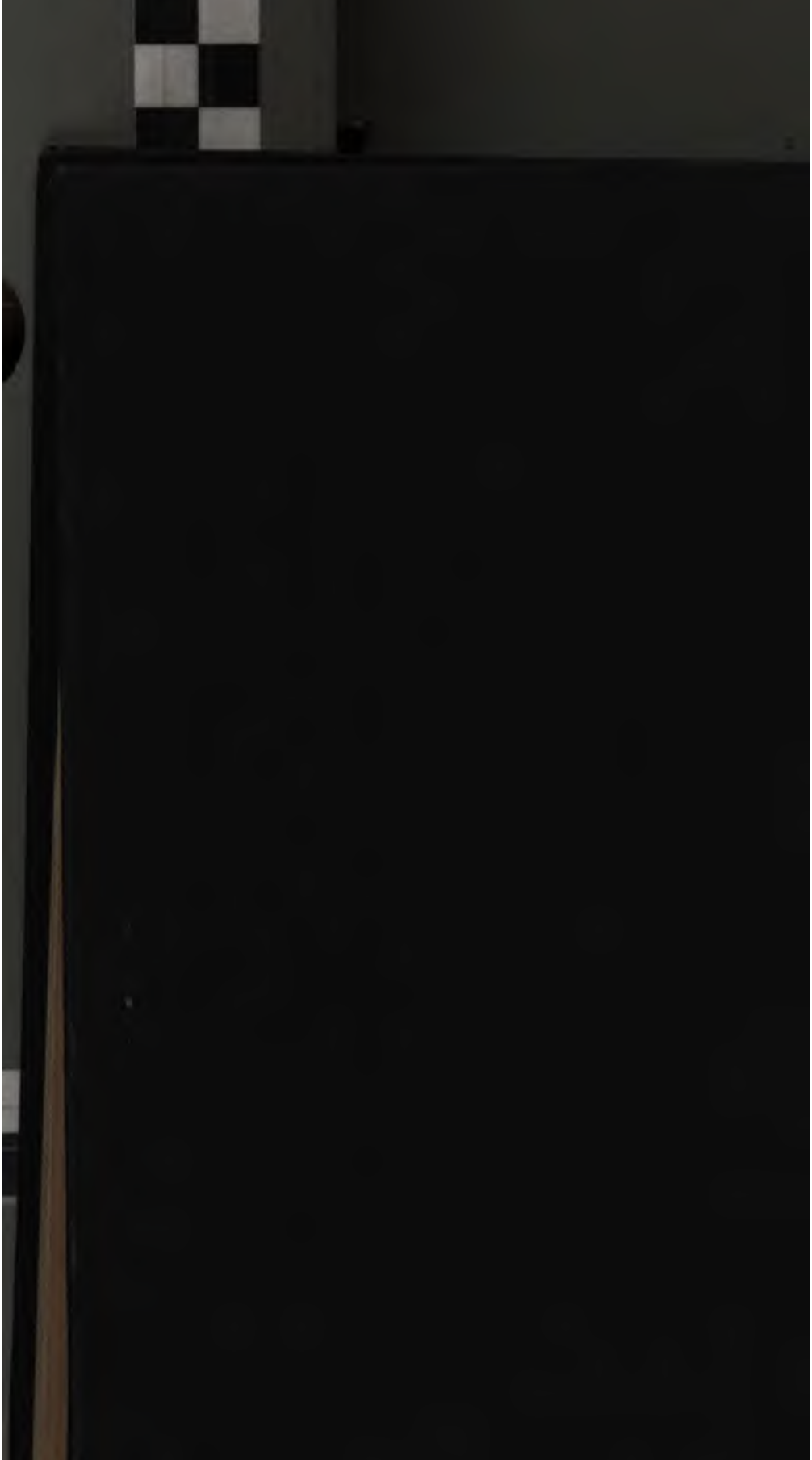
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